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CLARK UNIVERSITY



ACADEMIC CATALOGUE



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CLARK UNIVERSITY

ACADEMIC CATALOGUE

The following listing is intended as an illustration of courses and programs that are typically offered or have been offered recently at Clark. Inclusion in this listing does not constitute a promise or guarantee that the course or program will be available in a particular semester or academic year. Rather, in each semester a wide selection of courses from this catalogue will be offered. From time to time new courses, curricula, or instructors may be added or changed. Please consult the *Class Schedule* and *Addenda to the Class Schedule* published by the Registrar's Office for a definitive listing of the courses and instructors in each term.

Clark University is accredited by the New England Association of Schools and Colleges, which accredits schools and colleges in the six New England states. Membership in the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

It is the policy of Clark University that each individual, regardless of race, color, sex, sexual orientation, religion, national origin, age, or handicap, shall have equal opportunity in education, employment, or services of Clark University. The University encourages minorities, women, Vietnam Veterans, the handicapped, and persons between 40 and 70 years of age to apply.

For information:

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Worcester, MA 01610

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(Graduate School) (508) 793-7676

This catalogue is published by the Clark Communications Office, with special thanks to Lisa Nicholson.

Academic Calendar

1988-89

FALL SEMESTER

Sunday, August 28

Start of orientation for new students

(New foreign students arrive on Friday, August 26)

Monday, August 29 - Wednesday, August 31

Orientation continues

Wednesday, August 31

Registration for undergraduates and graduate students

Thursday, September 1

Convocation

First day of classes

University Monday*

Monday, September 5

Labor Day - a holiday

Friday, October 7 - Sunday, October 9

Parents Weekend

Thursday, October 20

Midterm break begins after last class

Monday, October 24

Classes resume

Monday, November 7 - Friday, November 18

Spring registration for all continuing undergraduates

Wednesday, November 23

Thanksgiving vacation begins after last class

Monday, November 28

Classes resume

Friday, December 9

Last day of classes

Monday and Tuesday, December 12-13

Saturday and Sunday, December 17-18

Reading days

Wednesday - Friday, December 14-16

Monday and Tuesday, December 19-20

Fall examinations

Tuesday, December 20

Winter vacation begins after last examination

***University Monday: Students and faculty follow
Monday class schedule**

SPRING SEMESTER

Wednesday, January 4

Fall grades for all continuing students due at the Registrar's Office

Monday, January 16

Registration for all undergraduates and all graduate students

Tuesday, January 17

First day of classes

Friday, March 10

Spring vacation starts after last class

Monday, March 20

Classes resume

Monday, April 3 - Friday, April 14

Fall registration for all continuing undergraduates

Friday, April 14

Last day for senior clearance for undergraduates to be awarded degrees 5/21/89

Friday, April 14

Last day for graduate students to apply for degree dated 5/21/89

Friday, April 21

Last day for departments to make departmental honor decisions for degrees to be awarded 5/21/89

Monday, May 1

Last day of classes

Tuesday and Wednesday, May 2-3

Saturday and Sunday, May 6-7

Reading days

Thursday and Friday, May 4-5

Monday - Wednesday, May 8-10

Spring examinations

Thursday, May 11

All grades for graduating seniors due at the Registrar's Office

Sunday, May 21

Commencement

Monday, May 22

Spring grades for all continuing students due at the Registrar's Office

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About Clark University

A teaching and research institution founded in 1887, Clark is the oldest graduate institution in New England and the second oldest in the nation. The undergraduate college, which opened in 1902, has been heavily influenced from the start by the academic values and rigor of the Graduate School. The rich heritage of that scholarship is the foundation on which today's scholars, teachers, and students are building.

Clark was established chiefly through the efforts of two men: founder Jonas Gilman Clark, the sagacious Worcester-area native and merchant for whom the University is named, and G. Stanley Hall, the prominent psychologist who served as Clark's first president and helped build the University's faculty and reputation. Jonas Clark envisioned a college for New England young men with limited financial resources. G. Stanley Hall saw the need in the United States for institutions whose sole concern would be graduate study and research. Today, more than a century after its founding, Clark shows the influence of both visions for the institution.

A private, coeducational, liberal arts university with Graduate Schools and a College of Professional and Continuing Education, Clark continues to offer the intellectual resources of a respected graduate University within the context of a small, New England college. In the course of its history, the University has extended its influence through professional journals—including *Economic Geography*—and professional societies,

including the American Psychological Association and the American Physical Society, both founded at Clark. Many internationally known scholars have worked, taught, and lectured at Clark. The names—and accomplishments—of some of these scholar/teachers are well known beyond the world of academe: Sigmund Freud, whose only visit to the United States was for a series of Clark lectures; Robert H. Goddard, whose liquid-fueled rockets made him “father of the space age”; Hudson Hoagland and Gregory Pincus, two of those credited with research that led to the development of the birth control pill.

Other Clark affiliates who became renowned for pioneering work in their specific fields include: Albert A. Michelson, the first American Nobel in science; Franz Boas, a major influence on American cultural anthropology; George Hubbard Blakeslee, a pioneer in the field of international relations. The wide-ranging accomplishments of Clark’s scholars and students have helped the University to leave its mark on the face of the earth (explorer Paul Siple, who held a Clark Ph.D. in geography, named a mountain range in the Antarctic for his professors) and on the face of the moon (where a crater is named after Dr. Goddard).

The Robert Hutchings Goddard Library, with a research collection of 500,000 volumes including 60,000 microform volumes; 240,000 monograph titles; and 2,300 periodical titles, is at the academic and physical heart of the University. Also, Clark’s newer facilities include fully equipped microcomputer labs; the University Computer Center; and the Arthur M. Sackler Sciences Center, an \$8-million teaching and research complex opened in September 1984. Campus facilities—some recently remodelled—are used for theater, music, and dance, as well as art exhibitions. A student athletic center offers facilities for virtually every sport and has a competition-size swimming pool. Campus buildings range from modern dormitories to Victorian era academic and administrative buildings. Clark features close relationships among students, faculty, and administrators; exceptionally strong interaction between graduate and undergraduate programs; and unusual opportunities for independent study. Intimate seminar and laboratory settings, student participation in faculty research projects, and a dedicated, inquisitive, intellectual environment encourage Clark students to hold fast to the University’s tradition of academic excellence.

The Undergraduate College

The role of Clark University in undergraduate education is that of a small college dedicated to advanced learning within the context of a university. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college and its students.

An undergraduate education at Clark has three elements: First, it provides students with deep and extensive involvement with a specific field of study so that each student can experience the meaning of intellectual mastery and can analyze problems in sufficient detail to know the real complexity of things; second, it develops the broad appreciation of our heritage, and that of other cultures, that is necessary to the liberally educated person; and third, it assists students in developing intellectual skills that suit them for a productive and active life.

To accomplish these goals, Clark has adopted the university-college concept as the ideal toward which all undergraduate academic planning and program development are directed. The university-college concept seeks to integrate graduate and undergraduate education, developing in students intellectual competence, personal maturity, and skills in analysis, communication, and critical thinking. Programs are structured so that students assume increasing responsibility for their own learning, often culminating in research projects with senior faculty.

The foundation of the university-college is the Program in Liberal Studies, a structured set of courses designed to: • supplement introductory-level work in the incoming student's proposed field, • acquaint the student with skills in critical thinking and knowing that are essential for self-directed learning, • provide a framework within which a student can select an organized pattern of study, and • provide a broad introduction to liberal and lifelong learning. The Program in Liberal Studies has two components: critical thinking courses and perspectives courses.

I. *Critical Thinking* : Every course in the University involves work in critical thinking. However, two types of courses place special emphasis on the cultivation of skills in this area. Each student is required to pass two courses, one from each of these areas:

A. *Verbal expression* : Courses offered in many different disciplines that place special emphasis on the relationship between writing and critical thinking within that discipline.

B. *Formal analysis* : Courses offered in several departments that place special emphasis on logical and algebraic modes of thinking.

II. *Perspectives* : *Perspectives* courses are designed to encourage breadth

and to define the principal ways of knowing in various fields of learning. Students must successfully complete courses in at least five of the six categories, each course from a different academic department.

A. *Aesthetic: Aesthetic perspective* courses give primary emphasis to artistic expressions of the imagination and to the perception, analysis, and evaluation of form. These courses are designed to enhance the appreciation and understanding of the arts.

B. *Comparative: Comparative perspective* courses introduce students to the methodologies and modes of thinking encompassed by the social sciences.

C. *Historical: Historical perspective* courses build the capacity to understand the contemporary world in the larger framework of tradition and history. Courses are broad in scope and holistic rather than thematic in approach, introducing students to methods of historical inquiry, and to the ways historians think critically about the past, present, and future.

D. *Language/Culture : Language and culture perspective* courses are designed to induce students to reflect upon the reciprocal relationships between languages and cultures.

E. *Natural Scientific : Scientific perspective* courses teach the principal methods and results of the systematic study of the natural world. Courses focus on methods of scientific study (observational/experimental experiences of natural phenomena) with a laboratory or demonstration component as an integral part to ensure actual exposure to natural phenomena and student experience of the result of scientific study.

F. *Values: Values perspective* courses study the dimension of value in all domains of life and learning, asking the moral question, "What ought we to do?"

Each perspective is important in the development of a balanced education. Therefore, we recommend that students do course work in each of the areas as part of a balanced liberal arts program. A list of the courses in each perspective is available each semester during registration.

THE MAJOR

A major at Clark involves study in one of the various departmental or interdepartmental programs of the college and results in the bachelor of arts degree. The undergraduate major is a program of study anchored in a particular discipline but specifically structured to include courses in related disciplines. This concept recognizes that breadth of knowledge must be maintained and achieved concurrently with specialization. Particular attention is placed on the interrelation of the major programs within the University and on early research opportunities.

A major consists of from 12 to 19 courses taken from those designated by a department. No department may require a student to take more than

19 courses in a major, but a student may take more than 19 courses if he/she meets the other University requirements for graduation. Majors must be declared prior to the beginning of the junior year.

There are no minors at Clark. Instead, Clark offers a variety of interdisciplinary concentrations. Students are encouraged to pursue extensive course work outside of the department in which they chose to major.

Academic Programs

Majors are offered in art (art history, studio arts, or fine arts), biology, chemistry, economics, English, foreign languages (French, German, Spanish, romance languages, or a self-designed combination), geography, government and international relations, history, mathematics, music, philosophy, physics, psychology, sociology, screen studies, and theater arts. Interdisciplinary majors are offered in ancient civilization; biochemistry; business/management; comparative literature; computer science; international development and social change; and environment, technology and society. Formal concentrations are offered in American studies, communications, education, Judaic studies, neuroscience, and women's studies; in addition, courses are offered in anthropology, astronomy, classics, geology, linguistics, and Russian, but departmental majors for bachelor degree candidates are not available in these fields. Detailed descriptions of all majors and programs can be found under the departmental listings.

Students can design their own majors with the advice of an advisory committee of three faculty members. Self-designed majors must be approved by the dean of the college and coordinated through the Academic Advising Center. Self-designed majors must include a balance between introductory and advanced courses. All self-designed majors must be approved no later than the start of the first semester, junior year.

INTERDISCIPLINARY DEPARTMENTAL MAJORS

BIOCHEMISTRY AND MOLECULAR BIOLOGY

The biochemistry and molecular biology major at Clark provides a comprehensive foundation for work in this contemporary discipline. The program is suitable for students who want to (1) pursue graduate studies in the field, (2) enter medical school with a strong background in a basic science, or (3) take laboratory or other science-related positions after graduation. For more information, refer to the departmental listing.

BUSINESS/MANAGEMENT

Two options are available to undergraduates interested in a business/management program:

1) *The Business Management Major.* Students interested in a management career in a profit or nonprofit organization (business, government, education, healthcare delivery systems, religious institutions, etc.), and who wish to explore job opportunities after graduation, deferring their graduate studies, should consider majoring in business/management. The program draws upon the broad liberal arts distribution requirements, integrating them into a program that is practical as well as broadly educational. For more information, refer to the management listing.

2) *The Five-Year B.A./M.B.A. Program.* For students who plan to pursue a master in business administration after their undergraduate work, this program offers an opportunity for accelerated graduate study. During their senior year, a select group of students, who meet the program requirements, finish their major requirements and are also permitted to enroll in graduate management courses, thereby enabling them to complete the M.B.A. in one year beyond the undergraduate degree, rather than the usual two years. Five-year B.A./M.B.A. students do their B.A. work in a field other than business/management (e.g., art, economics, foreign languages, psychology, government, etc.) and take related courses or electives to prepare them for graduate work in the senior year. They receive their B.A. after the senior year and the M.B.A. after the fifth year. For more information, refer to the management listing.

In addition to these programs, the Graduate School of Management offers a Master of Business Administration Program and a Master of Health Administration Program, which is offered in conjunction with the Department of Family and Community Medicine of the University of Massachusetts Medical School. Students may enroll in either program on a part- or full-time basis. For more information, refer to the management listing.

COMPARATIVE LITERATURE

This major allows the student of literature to transcend the boundaries of any one national literature, period, or genre. Comparative literature students are encouraged to combine such areas as philosophy, visual and performing arts, psychology, and history with their specific interests in language and literature. For more information, refer to the departmental listing.

COMPUTER SCIENCE

The computer science major has been designed for the education of computer scientists with a solid background in mathematics and significant work in a related area. Students may concentrate in various areas of computer science. For more information refer to the listing for the Department of Mathematics and Computer Science.

INTERNATIONAL DEVELOPMENT AND SOCIAL CHANGE

The program for International Development and Social Change focuses on questions of equity, growth, and development at a time when

Third World countries are exerting increasing influence in the world's economic, political, and social systems. The program is intended to serve students from developing and industrialized areas. It provides a forum for diverse perspectives and offers both a B.A. major and a Master's degree. Its hallmark: a unique combination of academic training and field research. Not only do students become aware of broad issues in international development, but they acquire basic skills of resource management and social and economic analysis. Topics of particular interest include peasant behavior, local organizations, farming systems, rural development, geographic information systems, and patterns and interactions of class, race, gender, and ethnicity. Many students prepare for careers as planners, managers, and educators in public agencies and in private non-governmental organizations that promote development domestically and more particularly in Asia, Africa, or Latin America; others choose further study in graduate and professional schools. For more information, refer to the departmental listing.

ENVIRONMENT, TECHNOLOGY AND SOCIETY

Clark is one of a few universities in the country to offer an undergraduate major in the interdisciplinary field of environment, technology and society. The Environment, Technology and Society (ETS) Program is designed for students who hope to contribute to the solution of complex societal problems such as environmental protection, energy policy, technological hazards, and risk analysis. Degree requirements emphasize a firm grounding in natural science coupled with considerable exposure to social science and public policy perspectives, both derived from coursework in traditional departments.

The ETS Program offers some thirty problem-oriented and methodological courses and a variety of special projects and internship experiences, often in conjunction with ongoing faculty research. ETS courses and projects serve not only ETS majors but also other students taking ETS courses as electives. The program also offers an integrated B.A./M.A. degree option, which can be pursued by ETS majors and majors in traditional disciplines. Students from outside Clark may pursue M.A. or Ph.D. programs in environmental affairs or in technology assessment and risk analysis. For more information on the ETS major and related advanced degree programs, consult the departmental listing or the ETS office.

INTEGRATED UNDERGRADUATE-GRADUATE PROGRAMS

To help bridge undergraduate and graduate education, Clark has established several integrated programs that allow students to complete requirements for bachelor's and master's degrees at an accelerated pace. Because undergraduates are granted admission to these special programs before receiving their undergraduate degree, they can begin to fulfill advanced degree requirements during their junior and senior years.

Each bachelor's/master's degree program is career-oriented and spans several disciplines; each provides participants with the knowledge and skills needed for entry-level professional positions and normally covers a three-year span, beginning in the junior year and leading directly to a master's degree. The bachelor's degree is awarded en route to the master's. The programs provide students with the knowledge and skills to enter a profession directly or to continue in a Ph.D. program. *Formal application for admission to these programs is required during the sophomore year.* Transfer students applying for these programs should direct their inquiries to the Admissions Office.

The University has approved programs of this type in environment, technology and society; geography; international development and social change; management; and public administration. In addition, the School of Geography offers a seven-year B.A./Ph.D. program, open to a limited number of highly qualified students.

SPECIAL OPPORTUNITIES FOR STUDY

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, or Becker, Quinsigamond, and Central New England Colleges.

More than 14,000 students have cross-registered under the consortium arrangement since 1968. The "extended University" affords Clark students easy access to increased programs and course options at no extra charge.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project; consortium students have been involved in a lead paint testing program; engineering students from Worcester Polytechnic Institute, University of Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option, which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended University" as defined by the Worcester Consortium. A music option also is available to stimulate intercollegiate participation in performing groups, to encourage cross-registration in music courses, and to make available concentrated study for students with extensive music backgrounds.

Courses taken at consortium institutions should not duplicate those taught at Clark. Approval of the department chair or, when necessary, the dean of the college is required. Students enrolled in the day college may not enroll independently at other consortium institutions and receive Clark credit. To help students select cross-registration courses,

the Consortium Office compiles a master course list by subject. This list appears prior to registration and is available in the Academic Advising Center.

CONSORTIUM GERONTOLOGY STUDIES PROGRAM

The Worcester Gerontology Studies Program functions as part of the Worcester Consortium for Higher Education. This program aims at developing an interest among undergraduate students of the consortium in the field of gerontology. It tries to stimulate the development of new courses in the field of aging—and to generate a greater emphasis on the problems of aging in general courses—to improve and enrich the available curriculum relating to gerontology. The main elements of the program are courses, internships, career planning, and a gerontology certificate.

A variety of courses related to aging are available among consortium colleges and exemplify the multidisciplinary nature of gerontology as a field of study. Contacts with a variety of agencies in the community have been developed in order to place and supervise students in internships with the elderly. To enhance support and supervision of the internship experience, the program organizes internship seminars and workshops. These address common issues and concerns of student interns and enable students to learn from their peers.

Placements for internships can be in a variety of settings: nursing homes, day care centers, family service associations, home care corporations, neighborhood centers, councils on aging, retirement programs, health services, and hospitals. Roles can be as varied as counselling, visiting, occupational and physical therapy, legislative assistance, advocacy, administration, and others.

For further information about the Gerontology Studies Program, contact the Coordinator, Consortium Gerontology Studies Program, UMass Medical School, Center on Aging, 55 Lake Avenue North, Worcester, Massachusetts 01605, (508) 856-3084 or, at Clark, contact the Department of Sociology, 793-7230, 793-7243.

WRITING AT CLARK

Emphasizing the need for writing throughout the curriculum, Clark offers interdisciplinary, departmental, and special Writing Center programs. The required Verbal Expression Program offers courses in several disciplines, including English; geography; history; philosophy; theater arts; and environment, technology and society. In many of the courses, class work is supplemented by peer writing groups. In addition to the required Verbal Expression Program, departments such as English, History, and Biology offer courses in basic, intermediate, and advanced expository writing as well as in science, social science, and creative writing. Supplementing the curriculum, Clark's Writing Center provides individual tutoring and noncredit workshops for all interested students. Writing Center offerings are not limited to remedial work but are flexibly designed to help students at all levels achieve clear, correct, graceful writing.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special project courses, which may be entered with the permission of the instructor concerned. Directed Readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the instructor. Special Projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but not to exceed a full course except by petition to the College Board. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses that may be counted toward the B.A. degree.

NONTRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (e.g. internship experiences, off-campus research, study at nonaccredited institutions) are sometimes eligible for course credit. To qualify, an experience must involve a significant extension, embodiment, or illustration of previous or concurrent systematic academic work. It must take place under competent supervision, and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student *prior* to the beginning of the experience. Course credit will not be given for work that duplicates previous coursework or other prior educational experiences. Internship experiences are graded pass/no record unless deemed exceptional after review by the dean of the college.

INTERNSHIPS

The Clark University Internship Program offers qualified students the opportunity to spend a semester working off campus, full- or part-time, as an extension of the academic curriculum. Having undertaken sufficient coursework in a related discipline, the student may choose a position from a large number of agencies offering internship placements. These positions allow him/her to perform extended work in that discipline while testing areas of potential career interest. Academic credit is offered for internships that take place under the supervision of qualified agency sponsors and in conjunction with appropriate Clark faculty members. Internships are equivalent to undergraduate courses, and tuition is assessed on a per-credit basis. All internships must be approved by the Internship Program. Internships are generally graded on a pass/no record basis.

PART-TIME EMPLOYMENT PROGRAM

The Part-time Employment Program, a federally subsidized facet of the College Work-Study Program, is a referral service designed to assist students looking for part-time and summer employment. The Office of Financial Aid maintains a listing of jobs available in the greater Worcester

area; interested students are registered and referred for the consideration of participating employers. The service is available to all currently enrolled Clark students, regardless of financial need.

INTERNATIONAL PROGRAMS

Clark University is committed to encouraging a strong Clark presence abroad and an international presence at Clark. The Office of International Programs serves both areas, through its international study programs and exchanges and its services to international students.

Eighteen Clark-sponsored international study programs in Great Britain, France, Germany, Italy, Spain, and Japan, are available on a competitive basis to qualified undergraduate students as follows:

Great Britain

City University, London
London School of Economics
University of East Anglia
University of Kent-at-Canterbury
University of Reading
University of St. Andrews, Scotland
University of Sussex
University of Stirling, Scotland
London Internship Program

France

Centre International d'Etudes
Francaises (CIEF), Dijon
University of Bourgogne, Dijon

Germany

University of Trier

Spain

Cursos Americanos, Segovia
University of Seville

Italy

Rome Classics Center
School of Italian Language
and Culture, Siena

Japan

Kansai Gaidai, Osaka
Sophia University, Tokyo

Students who study abroad on a Clark program pay regular tuition, room and board to Clark. Clark assumes responsibility for the students' academic programs and normal living expenses for the academic year. Students may earn up to a full year of credit through study abroad. Students interested in study abroad should attend regularly scheduled meetings or drop by the Office of International Programs to pick up a copy of *Study Abroad Guidelines*.

The Office of International Programs assists all graduate and undergraduate international students and faculty in obtaining the proper visa for entry into the U.S. and provides them with information on subjects ranging from immigration regulations to practical and personal questions related to life at Clark.

For further information, contact the Office of International Programs, (508) 793-7362.

WASHINGTON STUDIES PROGRAM

Clark participates in the Washington Semester Program of the American University in Washington, D.C. and the Washington Center for Learning Alternatives Internship Program.

Under these programs, a small number of students may be nominated to spend the junior year studying United States government in the nation's capital. Although any student may participate in these programs, the opportunity is particularly attractive to students majoring in government and international relations, history, economics, and sociology. Inquiry and application should be made to the chair of the Department of Government and International Relations for the Washington Semester Program or to the director of the Internship Office for the Washington Center for Learning Alternatives Internship.

PREPROFESSIONAL PROGRAMS

Clark University recognizes professional preparation is fully compatible with a liberal arts education. In that spirit, Clark offers a bachelor of fine arts degree and preparation for careers in management, computer science, education, law, medicine and other health sciences.

Prelaw

Students interested in law school are advised to plan a broadly based academic program that is liberal in character and has adequate samplings drawn from the natural and physical sciences, social sciences, and humanities. Although there is no specific major or constellation of courses recommended for all prelaw students, it is important that the courses selected lead toward the development of certain skills: (1) *Communication and articulation skills*: courses in composition and creative writing as well as courses in history, philosophy, government, and other fields in which the ability to read and write well is stressed; (2) *Quantitative analysis and graphic presentation*: courses in mathematics, computer science, economics, and geography, which help develop the ability to compile, understand, and interpret data and to present and analyze it in graphical form; (3) *Logic*: the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them; all courses that provide training in this skill are highly desirable; (4) *Critical understanding*: courses in ethics (philosophy), history, sociology, and other humanities social sciences that promote understanding of human institutions and values are recommended.

In general, the records of students applying to law schools will be evaluated by law schools according to several criteria: (1) the overall quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult the prelaw adviser through the Academic Advising Center.

Premedical/Predental

Students interested in premedical or predental programs may major in any of the sciences, social sciences, or humanities but must complete, normally before the end of the junior year, at least the minimum

requirements for admission to medical and dental schools: one year each of introductory chemistry, biology, physics, and organic chemistry (all with laboratories), and one year of English. A year of calculus and a semester of psychology also are strongly recommended or required by many medical and dental schools. Although there is considerable variation, some medical or dental schools encourage students to take courses in quantitative analysis, physical chemistry, and advanced biology. Proficiency in quantitative reasoning, communication skills, and reading comprehension must be developed, and a broad liberal arts background is helpful toward that end. In selecting their courses and planning their programs, students are urged to consult members of the Premedical and Predental Advisory Committee and the pamphlet, *Premedical and Predental Studies at Clark University*, compiled by the committee. Copies of this and other materials pertaining to premedical, predental, and other health profession programs are available in Sackler Sciences Center, Room J307.

RESERVE OFFICERS' TRAINING CORPS (ROTC)

Clark University students may participate in and receive benefits of the four- or two-year Reserve Officers' Training Corps (ROTC) programs conducted at the College of the Holy Cross and Worcester Polytechnic Institute, where the ROTC offices are located. The ROTC programs, which are voluntary, lead to a commission as an officer.

The academic program consists of a one-hour, non-credit general military course each semester of the first and second years, and a three-hour, one-credit professional officer course each semester of the third and fourth years. In the first two years, courses cover military organization and history. Courses in the final two years cover management, leadership, American defense policy, and military law.

Each student is also provided with field training, which is completed during the summer between the second and third years. Students attending field training receive travel pay and are paid while in attendance at summer camp. Students who participated in the last two years of ROTC must attend field training for six weeks; students who have participated during the first two years of ROTC attend for four weeks.

Students not already receiving an ROTC scholarship may compete for scholarships that range in duration from two to three-and-a-half years. Some of the scholarships cover all tuition costs, fees, and all expenses for books used in courses in which the student is enrolled. In addition, in some cases a monthly tax-free subsistence allowance is paid to scholarship students, and to students in their last two years of ROTC.

The basic qualifications for enrollment in the ROTC Program require a student to be a citizen of the United States, of good moral character, and of sound physical condition. For further information, interested students should contact the ROTC units at the College of the Holy Cross and Worcester Polytechnic Institute.

ACADEMIC FACILITIES AND RESOURCES

LIBRARIES

The Robert Hutchings Goddard Library is the academic heart of the University and an architectural landmark. The library contains 500,000 volumes (including microform volumes), a collection of 240,000 monograph titles, and subscriptions to 2,300 periodicals. As a member of Worcester's educational consortium, Clark also offers students the use of 10 consortium college libraries and a combined collection of 2 million volumes.

Goddard Library offers an exciting mix of educational resources, including a viewing area for videocassettes; a listening area for compact disks, records, and tapes; a language lab; microcomputers; and terminals linked to the campus computing network. In addition to seating space for more than 900 students, there are faculty study rooms, a seminar room, and assigned carrel space for graduate students.

The library is open 102 hours per week, with a normal week day schedule of 8 a.m. to midnight. The schedule is extended at exam times to provide even longer study hours.

The Guy Burnham Map and Aerial Photography Library. One of five federal depositories for maps and charts, the collection consists of over 168,000 maps, charts, atlases, aerial photographs, and globes. It is located in the lower level of the Geography Building.

The CEN TED Library. The Center for Technology, Environment and Development (CEN TED) has a specialized research collection that is coordinated with the University's central library. The CEN TED library contains books, technical reports, government documents and data boxes in the areas of risks and hazards, environment and development, energy, and climatic impact, as well as subscriptions to some 350 journals and newsletters. Computer records provide on-line access to an extensive collection on radioactive waste management, nearly 1000 congressional hearings and reports, and several filing cabinets of articles on informational development.

The Science Library, opened in 1985, houses recent books and journals in the fields of biology, chemistry, and physics. Microcomputers and a seminar room are available for students' use.

OFFICE OF INFORMATION SYSTEMS

A new University Computer Center houses Clark's cluster of VAX Digital Equipment Corporation (DEC) computers including a VAX 8530 and two VAX 11/750s used in both teaching and research. There are 52 individual terminals, located in Woodland Hall and the Goddard Library, that are available to undergraduates. Open seven days a week, the centers also offer the use of special graphics terminals, allowing students easily to create graphical representations—a feature of special interest to Clark student artists and cartographers. Clark also offers a "Rainbow Room," a personal computer facility featuring a bank of 40 DEC Rainbow 100s. The Rainbow Room not only provides needed computer time for

student use but also serves as classroom space for courses, supplementing those courses that rely on the University's mainframe cluster.

SCIENCE FACILITIES

A recent addition to the campus is the \$8 million Arthur M. Sackler Sciences Center opened in the fall of 1984. The brick and glass complex, which includes facilities for teaching, research, and experimentation features state-of-the-art scientific equipment. The center houses a range of specialized instruments including an electron microscope and facilities for high-field nuclear magnetic resonance (NMR) spectroscopy, which serve Clark students and researchers, as well as those of the central Massachusetts region. A centralized science library and a micro-computer room also are housed here.

VISUAL AND PERFORMING ARTS FACILITIES

The George F. and Sybil H. Fuller Foundation Center for Music, dedicated in March 1985, is a state-of-the-art facility for teaching, performing, rehearsing, recording, and experimentally creating music. The Center has two new Computer Music Studios, one a powerful direct digital system built around a Digital MicroVAX II and the other a hybrid studio with a personal computer interfaced to digital synthesizers.

- Studio space for drawing, painting, graphic design, visual studies, and photography as well as darkrooms and printmaking facilities.
- Two theaters—the 700-seat Atwood Hall and the 150-seat Little Center Theater, both of which also serve as concert halls.
- A newly installed sculpture and theater set construction studio
- A University Art Gallery, managed by student interns, which provides students opportunity to plan, design, hang, and proctor exhibitions.

RESEARCH INSTITUTES AND CENTERS

The Center for Technology, Environment, and Development (CENTED), an interdisciplinary research organization established in 1978, conducts basic and applied research related to major societal and global problems, including technological hazards, environmental aspects of international development, energy policy, and climatic change. CENTED also conducts distinctive training programs for professional researchers and practitioners and maintains close links with other international research centers, governmental agencies, and international organizations. It also has an internationally recognized research library. CENTED's interdisciplinary research groups engage more than thirty scholars representing a diversity of disciplines, including biology, chemistry, economics, geography, government, international development, medicine, physics, social psychology, sociology, and toxicology. These groups account for nearly half of all the externally funded research in the University.

The Heinz Werner Institute for Developmental Analysis is devoted to the application of developmental analysis to all psychological and psychocultural phenomena. Heinz Werner (1890-1965), one of the

leading psychologists of the past half-century, was the first chairman of the Board of Directors of the Institute of Human Development, founded at Clark in 1957 to promote the application of developmental analysis to all of the life sciences. After his death, the trustees of Clark renamed the institute in Werner's honor in recognition of his stature and eminence as a scholar, teacher, and scientist.

The Institute is designed to promote conceptual and empirical inquiry into all aspects of human development and to provide education and training in holistic-developmental analysis and synthesis. The Institute encourages interdisciplinary conferences and research cooperation among all groups whose primary interest is in the promotion of human development. Professor Seymour Wapner is chair of the Institute's Executive Committee.

The Institute for Economic Studies, funded and supported by the John M. Olin Foundation, began its operation in January 1980. The institute's main objectives are to research significant economic issues and propose policy options to deal with them and to disseminate the results of the research—particularly its policy recommendations—to a broad audience. The institute provides a framework within which new curricula and teaching methods may be developed. In addition, a Scholar-in-Residence Program was instituted in 1984 to stimulate the exchange of ideas and dialogue between guest scholars and members of the institute and economics faculty. The institute director is Professor Attiat F. Ott.

New Technologies Safety and Health Institute, founded in 1987, is the first dedicated to the comprehensive assessment of potential occupational and environmental hazards of new and emerging technologies.

Requirements for a Bachelor's Degree

GENERAL REQUIREMENTS

Course requirements: Credit toward the bachelor of arts and bachelor of fine arts degrees is expressed in terms of courses. A one-semester course normally involves two 75-minute or three 50-minute class meetings per week and, when applicable, three to four hours of laboratory per week. Normally each semester course is equivalent to one unit (four semester hours). A minimum of 32 units (128 semester hours) plus satisfactory completion of institutional and major requirements are necessary for the bachelor's degree.

At Clark we view education as developmental. It is, therefore, much more than a simple accumulation of credits. As a result, students entering as freshmen may not speed their progress toward graduation

by more than one semester through any means. All matriculated students must complete a minimum of seven full-time academic year semesters or their transfer equivalent for graduation.

Minimal academic performance: To graduate with the B.A. or B.F.A. degree, a student must receive passing grades in a minimum of 32 full courses required for graduation; he/she must receive a C- or better in at least 24 of these courses. Equivalencies for students with fewer than 32 courses in residence will be established by the College Board.

For the purpose of transfer, a full course is equivalent to four semester-hours credit.

RESIDENCE

To earn a bachelor's degree at Clark, a student must earn at least one-half the total number of course units for the degree and at least one-half the total number of course units taken for fulfillment of a major as *residential* credit. Residential credit is defined as credit earned through courses taught in residence in a Clark program. External credit is credit earned in the following categories:

1. Advanced placement and transition programs.
2. Summer school credit taken after matriculation at Clark.
3. Credits transferred from other American colleges and universities.
4. Credit earned in foreign study programs administered by American or foreign institutions of higher learning other than Clark.

The amount of (external) credit that can be applied to a bachelor's degree at Clark is limited by category.

1. No more than one semester (4 units) may be granted in advanced placement (A.P.). A.P. credit is defined as one unit of degree credit assigned for a score of 4 or 5 on a CEEB A.P. examination taken prior to matriculation and before the student formally enrolls. Students *may* also receive credit for college work completed prior to their matriculation at Clark University if that credit was not needed to fulfill high school graduation requirements, is in a content area deemed academically acceptable to Clark, and is from an accredited college or university. Finally, students *may* apply for advanced placement credit based on coursework or exams taken in international programs (e.g. International Baccalaureate, A levels, etc.). Credit is assigned on a case-by-case basis.
2. Students transferring to Clark from another institution may transfer in *no more than 16 units* of course credit. Students who begin their coursework at Clark may subsequently transfer in *up to 12 units* of course credit from other schools.
3. Eight of the last 16 units must be completed at Clark or in a Clark-sponsored program.

DECLARATION OF THE MAJOR

Students must declare their major no later than the end of the second semester, sophomore year. Changes in major after this point are possible but may prolong the undergraduate experience. During the freshman and sophomore years, students are encouraged to seek advice from their faculty adviser or the Academic Advising Center.

ACADEMIC REGULATIONS

An undergraduate normally carries a full program of four courses per semester. Students should consult with their faculty adviser, the Academic Advising Center, or major departments when questions about course or program selection arise.

While freshmen and sophomores may choose any course designated by a department as open to them, subject to established prerequisites, 200-level courses are normally designed for juniors and seniors.

Juniors and seniors may elect any 100- or 200-level course; course selection by juniors and seniors is subject to conditions stated in course descriptions.

Undergraduates may be admitted to 300-level courses (courses primarily for graduate students) with the approval of the dean of the Graduate School.

GRADES

Grades are an indication of individual performance in each course taken in the college. At Clark four grading patterns are currently in use:

1. *Graded courses:* This pattern uses the symbols A, B, C, D, and F with the modifying symbols "+" and "-" for A, B, and C. The lowest passing grade is D.

The faculty has approved the following qualitative description of grades:

- A indicates work of distinction, of exceptionally high quality
- B indicates good work, but not of distinction
- C indicates satisfaction of University degree requirements
- D indicates marginal work
- F indicates unacceptable work

2. *The Failure Removed (FR) Grade:* Students enrolled in graded courses will receive an FR in place of their first two earned F grades. An FR will not appear on the student's transcript. After a student has received two FR grades, all subsequent F grades *will* appear on the transcript and become a part of the student's permanent file. An F grade also may be assigned by the College Board in cases of serious infractions of academic integrity.
3. *The Pass/No Record Option:* This option uses the symbols P, NR. P indicates work at a level of C- or better. Performance below a C- results in a No Record (NR) grade. NR's do not appear on student's

transcripts. Students must choose this grade option at registration. There is no limit to the number of NR grades which a student may receive. However, NR courses do not carry credit and may not be counted toward graduation or university requirements.

4. *The Credit/No Credit Option:* This grading option, assigned by the University to a course, uses the symbols CR/NC. CR indicates work at a level of C- or better. The NC is treated like an F.

ELECTION OF THE PASS/NO RECORD OPTION

The availability of the pass/no record option in all courses is designed to help minimize the competitive aspects of grading for those who find competition detrimental to learning. Some students may wish to elect a number of their courses on this basis.

All students should remember that the great majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Preprofessional students and those for whom graduate school is a goal should exercise caution in employing the pass/no record option. Students who are interested in attaining honors, such as Phi Beta Kappa and general course honors at graduation, also should exercise the option cautiously.

NONCREDIT AUDIT STATUS

Full-time degree students are eligible to register as auditors in any course with the permission of the instructor. There is no additional charge for this privilege. Part-time matriculated students also may register as auditors with the permission of the instructor and the payment of a per course fee. In limited or sectioned courses, regularly enrolled Clark students are given preference for available openings.

Matriculated students who successfully complete audited courses (this determination is made by the instructor) will have the audited courses posted on their permanent records.

Note: Records for nonmatriculating auditors are kept for only the semester in attendance. Transcripts are not issued for audited courses.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes. Withdrawal from a course after the fourth week of classes constitutes withdrawal from an enrolled course, and the student may not substitute another course in its place. Withdrawal from a course after the fourth week of any semester results in a W being recorded on the student transcript.

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or dean of the college only when sickness or some other unavoidable circumstance prevents completion of the course. *Individual instructors may not* assign incompletes without the approval of the

College Board or dean of the college. A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester, it must be made up no later than the following October 1. *If a course is not completed within the specified time, the record of incomplete is changed to F.*

REGISTRATION

All continuing undergraduates are expected to register in November for the spring semester and again in April for the following fall semester. Details are provided in the registration class schedule each semester. Registrations must be finalized by the end of the second week of classes each semester. Notification of the dates for registration is given, and failure to register within the announced period results in a late fee.

EXAMINATIONS

Final examinations are given at the end of many courses. Approximately one week is set aside for each examination period, and an attempt is made to distribute examinations for individual students evenly throughout this period. Absence from a final examination, except for the most compelling reasons, may result in a failure for the course. Comprehensive final exams are not to be given (or to be due) during the last week of class or the scheduled reading period. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The University has no class attendance requirements; however, instructors have the prerogative of establishing such requirements for their own courses.

STUDENT ABSENCE DUE TO RELIGIOUS BELIEFS

According to Massachusetts state law, any student in an educational or vocational training institution, other than a religious or denominational educational or vocational training institution, who is unable, because of his or her religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any such examination or study or work requirement. He/she shall be provided with an opportunity to make up such examination, study, or work requirement which may have been missed due to such absence on any particular day, provided, however, that such makeup examination or work shall not create an unreasonable burden upon the school. No fees of any kind shall be charged by the institution for making available to the student such opportunity. No adverse or prejudicial effects shall result to any students because of their availing themselves of these provisions.

COURSE CHANGES

After Registration is complete, a student may enter a course only with the permission of the instructor. Students may add courses up to four weeks after the beginning of classes. Thereafter, a student may enter a course only with the permission of the instructor and the College Board.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses.

To the sophomore class	6 courses
To the junior class	14 courses
To the senior class	22 courses

PARTIAL PROGRAMS

In special circumstances, students may be permitted by the dean of students to register for a semester program of less than three courses. These students are designated as part-time students.

GUEST AND SPECIAL STUDENTS

The University provides for guest students from other colleges and universities who want to study at Clark for one or two semesters and for special students who want to take only a few courses without enrolling as degree candidates. Students enrolled as guest students should contact the Admissions Office. Persons interested in special student status should contact the Registrar.

ACADEMIC STANDING

Academic standing is reviewed each semester. All students are required to pass at least two courses with grades of C- or higher each semester. In order to remain in good academic standing, first-year students must complete at least five courses (with four grades of C- or higher) by the conclusion of their first year, and upperclass students must complete at least six courses (with four grades of C- or higher) each year. In addition, students may earn no more than 8 D grades for credit toward graduation. Students who fail to meet these requirements will be placed on academic probation for the next semester they are enrolled in the institution.

Students who do not maintain academic good standing or who violate academic integrity may be placed on academic probation or may be dismissed by the College Board. The progress of students who are placed on academic probation is subject to continual review by the Board.

Students on probation are expected to complete four courses with grades of C- or higher or face a required withdrawal for the subsequent semester.

ACADEMIC INTEGRITY

Academic integrity is a basic value for all higher learning. Simply expressed, it requires that work presented must be wholly one's own and that all direct quotations must be identified by source. Academic integrity can be violated in many ways: for example, by submitting someone else's paper as one's own, cheating on an exam, submitting one paper to more than one class, copying a computer program, altering data in an experiment, or quoting published material without proper citation of references or sources.

To ensure academic integrity and safeguard students' rights, all suspected violations of academic integrity are reported to the College Board. Such reports must be carefully documented, and students accused of the infraction notified of the charge. In the case of proven academic dishonesty, the student may be required to withdraw from the University.

LEAVES OF ABSENCE

A student who is in good standing may apply to the dean of students for a leave of absence, after which he/she may return to the University without formal application for readmission.

NO SHOWS

Students who fail to enroll for two consecutive semesters without taking a formal leave of absence or students who have voluntarily withdrawn from the University for a period of two semesters will be administratively dismissed from the institution. To be considered for readmission after this dismissal, students must apply to the dean of the college.

Honors and Awards

DEPARTMENTAL HONORS

A student may elect a program leading to a bachelor's degree with honors in a particular subject at the beginning of the junior year and, in some cases, at the beginning of the senior year. Under the plan, the department appoints an honors adviser who assists the student in planning a unified program of courses for the junior and/or senior years. The program may include a maximum of six courses in which the student works with a large measure of independence under the supervision of the adviser. In the senior year, the student must pass a comprehensive examination given by the department.

Students may apply in writing to their major departments for permission to take honors work, not later than May 1 of the sophomore year or, in some departments, in the junior year. Department approval is necessary for admission to such work.

Admission to an honors program does not exempt the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he/she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors; such recommendation occurs at the conclusion of the honors program.

ANNUAL HONORS

In June of each year, the dean of the college publishes a list of students who have distinguished themselves by outstanding academic performance in the preceding year. Honors are awarded to the top students in each class based on annual grade average.

LATIN HONORS

Latin honors are awarded at three levels: *cum laude*, *magna cum laude*, and *summa cum laude*. Honors are determined by the College Board on the basis of eight semesters' work or its equivalent. Criteria, such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark, are used for determining the awarding of general honors. Ordinarily three quarters of a student's record at Clark must be graded if he/she is to be eligible for general honors.

PHI BETA KAPPA

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs that are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

GRYPHON/PLEIADES

Gryphon/Pleiades is the senior honor society at Clark. Its membership includes students who have been recognized by administration, faculty, and their peers for academic achievements and extracurricular activities. The objectives of Gryphon/Pleiades are to study, discuss, and strive to further the best interests of Clark University. In addition, the society makes suggestions to the faculty, administration, and the student body for the improvement of campus conditions.

FIAT LUX HONOR SOCIETY

The Fiat Lux Honor Society was created in 1988 as a student honor society recognizing combined qualities of scholarship and citizenship among Clark students. All Clark students are eligible for selection into the Fiat Lux Society.

Qualifications for selection by a faculty committee include a 3.2 grade-point average and significant extracurricular contribution to the Clark community. Annual Fiat Lux Society events include society-sponsored speakers' forums.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS

ACADEMIC YEAR 1988-89

Tuition		\$11,900
Health Services Fee		120
Room:		1,950
Residence Hall/House double room	1,950	
Residence Hall/House single room	2,650	
Residence Hall/House triple room	1,700	
Board (19 meals: \$1,950; 10 meals: \$1,725; 5 meals: \$1,140)		1,950
Student Activity Fee		150
Telephone (required for dorm students)		80
SUB-TOTAL for continuing students		\$16,150
Charges that apply to new students only:		
Contingency Deposit		30
Orientation Fee		100
	TOTAL	\$16,280

OTHER FEES

Clark Student Health Insurance	\$252 single*
Students will be required to enroll in the Clark Insurance Plan unless they show proof of other coverage.	

Application Fee (undergraduate)	35
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DEPOSITS

Admission Deposit	100
Residence Hall Deposit	100
Tuition Deposit (upperclassmen)	200

Note: Costs are subject to change from year to year.

* \$516 student/spouse; \$789 student/spouse/children

GENERAL INFORMATION

Tuition, board, residence hall charges, and certain fees are due and payable prior to the beginning of each semester. The dates for 1988-89 are: August 15, 1988 for Semester 1 and December 15, 1988 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been arranged satisfactorily with the University.

There is a *late* fee of \$25 assessed against all accounts not paid in full by the August and December due dates. In addition, *interest* at the rate of 1-1/2 percent per month (annual rate 18 percent) will be charged on all balances (including tuition deposit) 30 days or more past due.

TRANSCRIPTS

Transcripts can be obtained from the Registrar's Office. There is no charge for first or unofficial transcripts. For all other transcripts, seniors pay \$1 per copy, and other students pay \$2.

REFUND POLICY

Withdrawals from the University are processed in the Dean of Students' Office. A student who officially withdraws in writing during the first week of any semester is allowed a refund of 80 percent on tuition; during the second week, 60 percent; during the third week, 40 percent; during the fourth week, 20 percent; after the fourth week there is no refund. The activity fee is refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above.

NORMAL PROGRAM AND COURSE LOAD VARIANCE

A normal full-time academic program is eight course units per year (four course units per semester). Students may elect to vary this pattern by taking three course units during any semester, and a course load of three courses per semester is a full-time load. Juniors and seniors who have received College Board permission may choose to take five courses in a semester at no additional charge. All students must complete a minimum of seven full-time semesters to meet degree requirements. Students may enroll in two units per summer. While there is no limit to the total number of summer courses students may take, only four units may be counted towards graduation.

Seniors in their last semester are expected to take the necessary number of units (up to five) for their degree. Full-time freshmen or transfer students, in their first semester at Clark University, must enroll

in a four-course program. Students re-entering the University, or returning from leaves of absence, also must enroll in a four-course program during their first semester.

ORIENTATION FEE

A fee of \$100 is assessed to all new students to cover services and activities provided during orientation.

CONTINGENCY DEPOSIT

All new undergraduates are required to pay \$30 deposit to cover minor charges, such as property damage, which may be incurred during the year. Students are billed each year for whatever charges are incurred; the balance is refunded upon completion of studies.

HOUSING DEPOSIT

A University housing deposit of \$100 is required of students each spring in order to enter the room selection process. The deposit is credited toward housing fees and is nonrefundable.

APPLICATION FEE

A fee of \$35 must accompany the application for admission to the college. It is *not refundable*.

STUDENT ACTIVITY FEE

A fee of \$75 per semester, levied and administered by the Student Council, is required of all matriculated undergraduates. The Student Council allocates funds to student organizations which provide a wide range of cultural, social, and recreational activities.

ADMISSION DEPOSIT

For entering students planning to live on campus, a nonrefundable admission deposit of \$100 *and* a housing deposit of \$100 are required to indicate acceptance of an offer of undergraduate admission. For students planning to live off campus, only the \$100 admission deposit is required. Deposits are credited toward charges for the first semester in attendance at Clark. Deposits are *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of \$200 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by July 1 and is credited toward charges for the fall semester; \$100 of the deposit is forfeited if the student does not enroll for the specified semester.

IDENTIFICATION CARD

Identification cards are issued each year to all students without charge. This card is an official college identification and should be carried at all times. Loss should be reported immediately to the Campus Police. There is a \$5 replacement charge for lost I.D.s.

KEYS AND KEY SECURITY

Room keys, mailbox keys, and residence hall entry cards are issued to students upon their arrival at Clark. Fees are charged for the replacement of keys and cards that are lost during the year, and it is mandatory to return them before leaving campus at the end of the academic year. The following charges are assessed to students who fail to return their keys at check-out when the residence halls officially close: \$30 for the room key, \$5 for the mailbox key.

TUITION BUDGET PLANS

The University offers two budget plans designed for families who find it easier to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under these plans, annual college charges are divided into consecutive monthly payments. The plan administered for Clark University by The Tuition Plan of New England in Concord, N.H., allows families to budget over a period of ten months beginning with payment in May. The plan provided by Academic Management Services of Pawtucket, Rhode Island, allows families to budget over an initial period of ten months. (Subsequent years' payments may be spread over 12 months upon reapplication.) This plan also begins in May with final payment due in February.

For the 1988-89 academic year, the Tuition Plan application fee is \$35, and the Academic Management Services plan application fee is \$45. Both plans provide free life insurance coverage to eligible participants. This coverage guarantees payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. Information regarding these plans is mailed to continuing students and students who are offered admission to the University.

Student Services

ORIENTATION

All new students are expected to attend the orientation program at the opening of their first semester. This program helps students plan a course of study and familiarizes them with Clark University and the city of Worcester. Orientation facilitates academic, residential, personal, and social adjustment to university life.

ADVISING

Academic advising is coordinated by the Academic Advising Center. All new students are assigned a faculty adviser who assists them in planning their program of study until they declare a major. Academic advising for juniors and seniors is normally done within individual departments. Students should consult their major departments for the assignment of a major adviser.

UNIVERSITY HOUSING

Clark University provides housing for approximately 1,525 students in nine houses and eight residence halls. The residential community is intended to provide students with a living and learning environment via social, educational and recreational program opportunities. One residence hall, Dodd, is a female residence. All other halls and houses are coeducational. Special interest housing includes: a "language house," a "quiet house," a "non-smoking house," and a "12-month house." Freshmen/women, unless commuting from home, are expected to live in University housing and can choose between residences which house only freshmen/women or members of all four classes. Housing is available for most transfer students.

Rooms for new students are assigned during the summer, and assignments are mailed to home addresses in late June or early July. Rooms for continuing students are determined in the spring of the school year by a room selection process; when the demand for University rooms exceeds the available supply, this system determines who receives guaranteed housing and who receives wait-list status. The room selection number, in combination with class standing, determines the order in which students choose their particular room. Upperclass students generally have first choice in selecting housing spaces according to the room selection number they receive. Most continuing students requesting University housing receive it, though some receive room assignments later in the summer. Requests for University housing, when honored, are considered binding for the full academic year as long as the student is registered. Conditions for living in University housing are specified in the housing contract that is required of all residents.

An option for continuing students is to live off-campus in privately owned apartments. Approximately one-third of Clark students commute from home or live in private housing in the immediate neighborhood. A limited listing of available apartments is compiled by the Office of Housing and Residential Programs.

DINING HALLS AND MEALS

Dining halls in Dana Commons and Jefferson Hall are operated for the convenience of the Clark community and guests. Service is cafeteria style, and students select from a variety of plans with respect to both the number of weekly meals and particular dietary needs, such as kosher or

vegetarian. "950 Main," a casual gathering place for food, drink, socializing, and entertainment includes snack and juice bars, game and TV rooms, and a coffee house.

HEALTH SERVICE

The Clark University Health Service is a primary care outpatient clinic that provides on-campus health care to full-time matriculated (day college) students. It is staffed by family practice physicians from the Hahnemann Family Health Center, nurse practitioners, and a registered nurse. The clinic, located on the first floor of Wright Hall at 30 Downing Street, is open Monday through Friday 9 a.m. - 5 p.m. There is always a physician on call when the Health Service is closed.

Students may make an appointment at the Health Service—with either a physician or a nurse practitioner—for diagnosis, treatment, follow-up, or counselling regarding health problems. Gynecological and contraceptive services are available.

The Health Service staff has a holistic approach to health problems. Emphasis is placed on prevention, wellness, and health education. Staff members consider their roles to be congruent with, and an integral part of, the educational process.

Prior to registration, students are required to submit a completed history and physical exam form to the student Health Service. Massachusetts state law requires that college students under 30 years of age must present evidence that they are immunized against measles, mumps, rubella, diphtheria, and tetanus in order to register for classes. All students are required to have adequate medical insurance coverage, through either a family policy or the Clark University Student Health Plan. Failure to submit proof of alternative coverage will result in the student being automatically enrolled in the Clark Plan and charged accordingly.

PSYCHOLOGICAL SERVICES

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, consultative, and referral services to members of the Clark community. The Center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the Center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. A brochure describing the Center and its services may be obtained at the Center's main offices in Room 301, Jonas Clark Hall. Strict professional confidentiality is provided for any information or records concerning anyone known to the Center.

OFFICE OF CAREER SERVICES

The Office of Career Services provides services and programs to assist students in making informed decisions regarding their career choices. The professional staff offers assistance in career and graduate school

planning and in the internship and full-time job search. The following services are available:

Career Advisers to meet with students who want to discuss their choice of major and/or career plans. Career advising helps students clarify their goals, preferences, skills and strengths;

Career Library that contains information on career fields, employers, internships, and graduate study. Information on job search strategies, interview techniques and occupations, as well as directories, annual reports, and literature about specific employers is also available. One of the Career Library's most valuable resources is the Alumni Contact File, listing by profession over 900 Clark alumni in Boston, New York and Washington, D.C. who are willing to serve as career advisers to students;

Workshops on resume writing, interview skills, and job search strategies plus a variety of panel presentations on specific career fields;

On-Campus Recruiting Program which hosts each year over 50 employers and graduate schools who visit Clark to recruit graduating seniors;

Reference files, a service that sends students' letters of recommendation to prospective employers, graduate schools, or professional programs.

Athletics and Recreation

Clark's sport programs are designed to stimulate interest and participation in a variety of physical activities, promote health and mental well-being, and encourage continuing participation throughout life.

GEORGE F. KNELLER ATHLETIC CENTER

Clark has a modern student athletic center, which houses all athletic, intramural, and recreational programs. The center has a central gymnasium with three full-size basketball courts, three volleyball courts, three tennis courts, eight badminton courts, and a jogging track. There is a 6-lane, 25-yard pool with 1- and 3-meter diving boards. There are four racquetball/handball courts, two squash courts, and areas designated for weight training, physical education, crew, and dance.

Clark's outdoor sports facilities include a regulation soccer field with lights, a lighted baseball field, a field hockey field, intramural softball area, and six elasta-turf tennis courts. Our fields are used for all intercollegiate athletic teams, as well as intramural/recreational programs. Clark also has a separate intercollegiate softball field, located 1/2 mile from the campus.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and well-defined and strong interest in athletic competition, Clark has 19 intercollegiate teams including golf, baseball, soccer, basketball, crew, cross-country, tennis, swimming, and track for men as well as soccer, basketball, crew, cross-country, tennis, swimming, track, volleyball, field hockey, and softball for women.

Clark University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the New England College Athletic Conference, the Massachusetts Association for Intercollegiate Athletics for Women and numerous sports associations. Clark is an N.C.A.A. Division III school, and our more than 350 student athletes typically compete with the following Division I, Division II, and Division III schools: Amherst, Williams, Brandeis, Tufts, M.I.T., Bates, Bowdoin, Colby, Middlebury, Coast Guard, Assumption, Holy Cross, Wesleyan, Trinity, W.P.I., and Springfield.

INTRAMURAL ATHLETICS

The intramural program provides many opportunities for recreation and competition among students, faculty, and staff. Offerings include basketball, softball, soccer (indoor and outdoor), ultimate frisbee, touch football, volleyball and inner tube water polo. Special events have included: Fun Runs, Kickball/Whiffleball Tournaments, Ping Pong Tournament, "Wild & Crazy" Relays, "Dive-in Movie Nite", and other events as suggested by the Intramural Advisory Board.

CLUB SPORTS

Clark also supports two competitive "club" teams, which offer intercollegiate play in men's lacrosse and men's squash.

PHYSICAL EDUCATION PROGRAM

Noncredit classes for students/faculty/staff are available in areas such as ballet, modern dance, self-defense, tennis, raquetball, aerobics, weight training and swimming. Other classes are created in response to student/faculty/staff interest.

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women regardless of race, color, sex, sexual orientation, religion, age as defined by law, handicap, national origin or financial condition. Selection is competitive, based primarily on academic promise indicated by

secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondly, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.

ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; three years of mathematics; three years of science; two years of both a social science and a foreign language; and other credit electives, including the arts, recognized in the secondary school curriculum. The University is most concerned with the strength of the student's academic program and therefore recommends this framework of courses. However, the University does value diversity and understands that some students may be following different high school curricular patterns.

ADMISSION TESTS

Applicants for freshman admission in September should submit the results of the Scholastic Aptitude Test (S.A.T.) administered by the College Entrance Examination Board no later than January. One Achievement Test is required: the English Composition Examination (preferably with essay); two others are recommended.

REGULAR ADMISSION

Candidates for freshman admission in September should initiate their applications as early as possible, usually during the first semester of the final year of secondary school, and no later than February 15. The deadline for admission at midyear is November 15. A *nonrefundable* fee of \$35 must accompany each undergraduate application unless a waiver is being requested. Clark participates in the Common Application Program and accepts photocopies of the appropriate forms, which are distributed to secondary schools.

EARLY ADMISSION

Exceptional students are invited to apply for early admission when encouraged and supported by enthusiastic recommendations from their secondary schools.

EARLY DECISION

As a service to students for whom Clark is clearly first choice, Clark has established an Early Decision Program. Applications in writing for an early decision must be submitted by December 15. Decisions are announced on or about January 15. Candidates will be offered admission or deferred for further consideration with regular applicants.

Although this program does not preclude regular applications to other colleges, participation by a student does imply a commitment to withdraw such applications upon notice of acceptance by Clark.

INTERNATIONAL ADMISSIONS

Foreign students attending secondary schools *within* the United States may use the standard application forms. The Test of English as a Foreign Language (TOEFL) is required of all candidates whose native or official language is not English. TOEFL results for successful applicants are usually in the 550-650 range. For information, write to TOEFL, CN 6151, Princeton, NJ 08541-6151. Those attending secondary school in the United States for less than two years need *not* submit results from the Scholastic Aptitude Test (S.A.T.), but these students *must* submit TOEFL scores if their native language is not English. Financial aid for foreign students is limited and is based on completion of a Foreign Student Financial Aid Form. Those at secondary schools in the United States under a student visa will need another visa for university study. *The Certificate of Eligibility (I-20)*, necessary to obtain a student visa, will be granted only after full admission and a receipt of a *Certification of Finances* signed by a bank official.

NOTIFICATION OF ADMISSION AND DEPOSITS

Regular notification of admissions decisions for September freshmen occurs on or about April 1, and Clark subscribes to the Candidates' Reply Date, May 1. For students planning to live on campus, a nonrefundable admission deposit of \$100 and a housing deposit of \$100 are required to indicate acceptance of an offer of undergraduate admission. For students planning to live off campus, only the \$100 admission deposit is required. Deposits are credited toward charges for the first semester in attendance at Clark.

DEFERRED ADMISSION

Students who want to postpone enrollment need only submit a request in writing by the assigned reply deadline. Students who undertake academic work in the interim may not automatically defer enrollment, but must reactivate their applications by submitting official transcripts for review.

ADVANCED PLACEMENT/STANDING

Placement in advanced courses is determined by individual performance on departmental examinations, which may be oral or written, or on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. In addition, each score of 4 or 5 on an A.P. test will be credited with a value of one course-unit at Clark. Advanced standing may also be earned by transfer; presentation of an official

transcript of college-level course work already completed is required. A maximum of one semester's credit (4 units) may be assigned to freshmen enrolling with advanced standing.

TRANSFER CREDIT

Normally, credit is given for academic courses in the liberal arts previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at nonaccredited institutions is granted on a provisional basis to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than C-minus.

Evaluation of credits for college courses completed elsewhere is made at the time of admission or upon receipt of final transcripts and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 percent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally a minimum of two academic years at Clark is necessary for completion of degree requirements. Matriculated students should refer to the section on residency requirements.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and four-year institutions. The majority of students admitted enter at the junior level, although many transfer to Clark with sophomore and advanced freshman standing.

Of special interest to transfer candidates are the University's B.A./M.A. program options in the Environment, Technology and Society (ETS) Program and in the Program for International Development and Social Change. The application deadline is April 15 (November 15 for places available at midyear).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work—secondary level and beyond—including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee, such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

CAMPUS VISITS AND INTERVIEWS

Prospective students are encouraged to visit the campus and are invited to write or call the Admissions Office ((508) 793-7431) for details. Interviews, both on and off campus, are available with members of the admission staff or alumni by appointment in the fall and winter. Interviews are not an admission requirement.

Undergraduate Financial Aid

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance. Special talent in music, art, and other areas, as well as leadership ability also are considered. Aid is packaged—i.e., a combination of scholarships, grants, loans, and/or part-time employment. The Office of Financial Assistance and Student Employment assesses each student's financial circumstances and need through a uniform analysis of the Financial Aid Form (FAF) and adjustments are made in accordance with University policies and procedures. The assessment takes into account family income and assets, age of parents, financial commitments to other dependents and members of the family, and other special circumstances.

The University expects that a student's resources for education will come first from family and his/her own savings and earnings. The University will make every effort to assist the student in obtaining the difference between the total cost and expected family resources. No student should fail to apply for admission to Clark University because of the inability of his/her family to pay total educational costs.

INDEPENDENT SOURCES OF ASSISTANCE

All applicants for financial assistance are urged to pursue independent sources of financial assistance. Clark cannot replace outside funds for which a student is eligible but fails to apply. Scholarships are often awarded to graduating seniors by high schools and/or private scholarship agencies in students' local communities. Additional information usually is available in guidance offices.

Residents of Massachusetts are expected to apply for a *State Scholarship*. To apply, students must complete state Financial Aid Forms (FAF), which may be obtained from guidance counselors or financial aid offices. Out-of-state students should investigate the possibility of using state scholarships at Clark.

An important source of federal financial assistance is offered in the form of *Pell Grants*. These grants, which vary in amounts up to \$2,200 per year, are available to students who demonstrate financial need according to federal regulations. All applicants for financial aid are required to apply for a Pell Grant. Students may apply for a Pell Grant by checking the appropriate item on the FAF.

For those who need additional help, the *Guaranteed Student Loan Program* may be utilized as a resource to supplement grant, scholarship, and loan. Offered through lending institutions, the program is partially subsidized by federal funds. Additional information and application

materials are available at local lending institutions. Information also may be obtained at the Office of Financial Assistance and Student Employment.

In addition to the Guaranteed Student Loan, there are various supplemental loans available to the families of students attending Clark University. These programs offer both fixed and variable interest rates with up to fifteen years to repay. No collateral is necessary. However, applicants must be creditworthy and meet a standard debt service to income test. More detailed information may be requested from the Office of Financial Assistance and Student Employment.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting your local Veterans Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

Clark University Financial Assistance

Clark University makes a commitment to entering students during their freshman year and in each subsequent year at Clark as long as they continue to demonstrate the same amount of financial need, continue to meet the standards of satisfactory academic progress, have filed all necessary application materials by the required deadlines, and have not exceeded program limitations of financial assistance, and as long as Federal funding to Clark's Office of Financial Assistance and Student Employment continues at the same level. Although any Clark student may apply for assistance as an upperclassman, level funding is guaranteed only to those students who received aid their first year at Clark and have met the above requirements.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and/or employment from the following sources:

Alumni and Friends Scholarships—a portion of the University income is reserved for this purpose and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants—part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support of this fund is contingent upon annual congressional allocations.

Perkins' Loans—long-term loans that bear no interest until six months after a student ceases to be at least a half-time student at an institution

of higher education. At that time, interest begins to accrue at the annual rate of 5 percent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least \$30 per month principal over an extended repayment schedule of up to ten years. Continued support is contingent upon annual congressional allocations.

Student Employment—available during the summer and part time during the academic year. The basic source of funds for employment is the Federal College Work-Study Program. Jobs, offered as part of the package of financial assistance, and placements are handled by the Office of Financial Assistance and Student Employment. All students, regardless of financial need, may consult the job listings in the Office of Financial Assistance and Student Employment for part-time employment.

ENDOWED SCHOLARSHIPS

Most grants awarded by the University are designated Alumni and Friends Scholarships. Funds for these scholarships are derived from endowed funds. (Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.)

The Lambi and Sarah Adams Endowed Scholarship Fund

The Reginald Bryant Allen Fund

The Alumni Group Scholarship

The Alton Anderson Endowed Scholarship Fund

The Association of Colored Peoples Scholarship Fund

The Richard Barnes Memorial Scholarship Fund

The William H. Blake ('15) Scholarship Fund

The B'nai B'rith Scholarship

The Richard L. Boffoly Endowed Scholarship Fund

The Stella Malkasian Boy Scholarship Fund

The Haven D. Brackett Student Aid Fund

The Gertrude and William Brodie Award

The Charles W. and Annie L. Bruninghaus Fund

The Reina and Isadore Chaiklin Scholarship Fund

The Clark University Faculty Women's Club Scholarships

The Gloria Woolson Cockburn Memorial Scholarship Fund

The Cohn-Anderson Memorial Fund

The Celia Daspin Memorial Scholarship Fund

The Geraldine Park Deeks Endowed Scholarship Fund

The Depaul-Cunningham Student Loan Fund

The H. Allan Dickie Endowed Scholarship Fund

The Gladys Gunderson Diliberto Fund

The Ruth and Loring Dodd Scholarship Fund

The Thomas J. Dolphin Scholarship Fund

The Theodore T. and Mary E. Ellis Fund
 The Albert C. Erickson Scholarship
 The Leon E. Felton Memorial Scholarship Fund
 The A.D. Ross Fraser Scholarship
 The Julian S. Freeman Memorial Scholarship Fund
 The Aaron Fuchs Memorial Scholarship Fund
 The Lillian and Selig Glick Scholarship Fund
 The Paul S. Goldman Memorial Scholarship
 The Wallace W. Greenwood Scholarship Fund
 The Madeline T. and Winthrop G. Hall International Fellowship
 The Bertram L. and Bessie T. Handleman Fund
 The Frank H. Hankins Scholarship
 The High School Basketball Tournament Scholarship
 The Lennard A. Hill ('57) Memorial Scholarship Fund
 The Gertrude and Eva Hillman Scholarship
 The Frances Tufts Hoar Fund
 The Ruth G. Hodgkins Scholarship Fund
 The Drs. Burton P. and Herbert H. Hoffner Endowed Scholarship Fund
 The Frederic W. Howe Jr. Scholarship Fund
 The Ann P. Hubbard Memorial Scholarship Fund
 The Gordon A. Hubley Fund
 The M. Hazel Hughes Scholarship
 The Lillie May and Raymond S. Huntington Scholarship Fund
 The Jean E. and Theodore H. Hurwitz Scholarship Fund
 The Howard Bonar Jefferson Endowed Scholarship Fund
 The George N. Jeppson Scholarship Fund
 The Johnson-McLean Scholarship Fund
 The Kappa Phi Scholarship Fund
 The Ella O. Keene Scholarship Fund
 The George F. Kneller Scholarship Fund
 The Levi Knowlton Fund
 The Dr. Edmund Randolph Laine Scholarship Fund
 The David Ashley Leavitt Memorial Scholarship Fund
 The Joseph Leavitt Scholarship Fund
 The Dwight E. Lee Scholarship Fund
 The Elizabeth T. Little Scholarship Fund for Women
 The Homer Payson Little Scholarship in Geology
 The Livermore and Ambulance Drivers Scholarship
 The Robert H. Loomis Scholarship
 The Lieutenant Louis J. Luvisi Jr. Scholarship Fund
 The Chester W. Malmstead Loan Fund
 The Joshua Morrison Scholarship Fund
 The Nazareth Nanigian and Manasseh Nanigian Memorial Scholarship Fund

The Alice Friend Newton Memorial Scholarship
The Norton Company Scholarship
The Nunnemacher Endowment Fund
The Gerim M. Panarity Scholarship Fund
The Abraham S. Persky Scholarship Fund
The Joseph Persky Scholarship Fund
The Mary E. and Irene L. Piper Scholarships
The Gerard Pomerat Scholarship Fund
The Charles B. Randolph Fund
The Helen Brewster Randolph Memorial Scholarship
The Jennie L. Richardson Scholarship
The William Richardson Scholarship
The Elliott Stephan Sahagian ('67) Scholarship Fund
The Sanford Memorial Scholarship
The Lillian and Samuel Schanberg Memorial Scholarship Fund
The Fredric T. Sewall Scholarship Fund
The Dr. David M. Shor Memorial Scholarship Fund
The Jacob L. Shor Memorial Scholarship Fund
The Henry L. Signor Scholarship
The Abraham Solomon Scholarship Fund
The Harry D. and Anita Solomon Endowed Scholarship Fund
The Saul Reuben Stein Student Loan Fund
The William T. and Barbara H. Stimson Scholarship Fund
The Berge Tashjian Scholarship Fund
The Russell S. Thompson ('18) Scholarship Fund
The Michael Thomas Tucker Memorial Scholarship Fund
The Undergraduate Scholarship Fund
The Benjamin R. and Grace F. Vanderford Student Aid Fund
The Henry A. Willis Scholarship
The Harold C. Wingate Memorial Scholarship Fund
The George M. and Bee Wolfe Scholarship Fund

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid form (FAF) to the College Scholarship Service by February 15, and direct that a copy be forwarded to Clark University. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. Each recipient is required to verify the information reported on the FAF by filing a copy of the parents' and student's most recent federal income tax return form. Early decision candidates should file an Early Version FAF by December 15. This form will be sent to those who indicate on their admissions applications they will be applying for aid.

Prospective transfer students who are requesting financial assistance should submit the FAF to the College Scholarship Service at the same time application is made for admission. Each transfer student must submit a signed copy of the parents' and student's latest federal income tax return to the Office of Financial Assistance and Student Employment and request a Financial Aid Transcript from all colleges that the student previously attended. Award notification will be made after acceptance to the University. Applicants will not be required to post an admission deposit before receiving a financial aid decision. Awards are made as funds allow.

Upperclassmen must reapply annually for financial assistance by submitting an updated FAF to the College Scholarship Service and an Application for Upperclass Students to the Office of Financial Assistance and Student Employment by March 1. In addition, a signed copy of the parents' and student's previous year's federal income tax return form must be filed with the Office of Financial Assistance and Student Employment by April 15. Clark financial assistance is renewed as long as the applicant meets the requirements described in the first paragraph of this section.

Any new student interested in financial assistance should request a copy of the Clark University Financial Aid Guide from the Admissions Office, which contains all pertinent financial aid information.

The Graduate School

General Information

Clark University was originally established in 1887 as strictly a graduate institution. In fact, Clark was the second graduate school in America (after Johns Hopkins). Over the years, Clark's graduate school has trained leading scholars and practitioners in a wide array of fields. It also has been at the center of major research breakthroughs in disciplines as diverse as physics, geography, and psychology.

Clark offers graduate programs leading to doctoral and master's degrees. Admission to Clark's graduate programs is open to holders of the bachelor's degree or its equivalent, and is determined on a competitive basis. All programs are administered by the Graduate Board. Completion of a master's degree program generally requires one or two years of study and completion of the Ph.D. at least four years of study, although requirements vary across departments.

Doctor of philosophy degrees are offered in biology, biomedical sciences, chemistry, economics, geography, history, physics, and psychology. Doctoral students in biomedical sciences and in psychology

may also enroll in courses given cooperatively with the University of Massachusetts Medical School, the Worcester Foundation for Experimental Biology, and Worcester Polytechnic Institute. Doctor of education degrees in special education and in educational management are offered by the Department of Education. Also offered is the individually designed interdisciplinary Ph.D. program, which is designed by the student and a faculty committee.

Master of arts degrees are offered in the fields of biology, chemistry, education, English, geography, history, international development, physics, psychology, and the interdisciplinary program for environment technology and society. The master of business administration degree is offered by the Graduate School of Management and the master of health administration is offered by the Graduate School of Management in conjunction with the University of Massachusetts Medical School. Through the College of Professional and Continuing Education (CO-PACE), Clark also offers the master of public administration and the master of arts in liberal arts degrees. A new program in computer science is being planned.

Departments that do not, at present, accept candidates for graduate degrees may offer courses suitable for inclusion in a program of graduate study. Programs crossing departmental lines are also available, as noted above, through the University's individually designed Ph.D. program. In addition, postdoctoral training is conducted in geography, psychology, and the natural sciences.

There is a wide variety of financial support available for incoming graduate students. Most departments offer teaching assistantships, fellowships, and research assistantships. Often these come with a living stipend as well as tuition grants. Some specific examples of fellowship awards are listed at the end of this section. Additional information about departments and their offerings may be found in the section entitled *Departments and Courses*.

INQUIRIES

Inquiries from American and foreign students concerning specific programs of graduate and postdoctoral work should be addressed to the chair of the department or program concerned. Please check catalog section, *Departments and Courses*, for names of department chairs and program directors.

ADMISSION TO GRADUATE SCHOOL PROGRAMS

Admission to the Graduate School may be granted *only* by the dean of the Graduate School acting for the Graduate Board on the recommendation of a department or program of the University. Formal notification is by official letter from the graduate dean. *Application:* An applicant from an American institution should communicate with the appropriate department or program head. The applicant will be provided with an

application form, which, accompanied by a \$35 application fee, should be returned to the department or program. In addition, the applicant should arrange for the forwarding of an official transcript of all undergraduate and any subsequent academic work and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to submit their scores on the Graduate Record Examination verbal, quantitative, and advanced tests. Applicants to the Graduate School of Management programs (master of business administration or master of health administration) are required to take GMAT rather than GRE examinations.

In addition to an application and \$35 fee, a foreign student should provide a certified English translation of the official transcript, evidence of English proficiency (TOEFL), at least three letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Application Deadlines:

Psychology:	January 30 for forthcoming fall
Management:	One month prior to each semester (July 31, November 30, March 31)
All others:	February 15 for forthcoming fall

Application materials cannot be returned. A *Financial Aid Form* must be submitted through the College Scholarship Service before awards can be made.

Admission: Admission to the Graduate School is valid for a specified time only and lapses after that period. If a student is admitted while still a candidate for a degree from another institution, an updated transcript noting the conferring of that degree must be sent directly to the dean of the Graduate School.

Part-time Admission: Part-time graduate study is possible in some departments; see section entitled *Departments and Courses*.

Special Graduate Students: Admission as a special graduate student (nondegree candidate) is a simple enrollment process handled through the Registrar's Office. The grading system for these students is: A-F (with plus and minus) or Pass/Fail.

MASTER OF ARTS

Residence: An academic year (eight semester-courses) of study in residence is a minimum requirement for a master's degree. Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special requirements are included in the department listings in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the dean of the Graduate School not later than the first week of the last full semester the student expects to spend in residence as a candidate for a degree. Forms are obtainable at the Graduate School Office. Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of master of arts is valid for three years after admission to candidacy. Candidacy may be renewed once, for satisfactory reasons, for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester-courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the dean of the Graduate School upon recommendation of the department.

Each candidate must pass such written examinations as are required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. Regulations for submission of theses and degrees are available from the department and the Graduate School Office.

Diploma Fee: The fee for the master of arts degree is \$25. It covers the cost of the diploma, publication of the precis in *Dissertations and Theses*, and binding of the library copy. It is payable when the thesis is deposited with the format adviser. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due to the University format adviser.

Alternative Program: A candidate for the degree of master of arts may be recommended for the degree without a thesis after passing a preliminary doctoral examination.

Nonresident Students: Continuing students who are not registered for courses at Clark are required to pay a nonresident fee of \$100 per semester to maintain active status. If fees are unpaid, the student will be dropped from the degree program. (Fees double upon renewal of candidacy.) For information on nonresident loan deferment status, see the *Graduate Tuition* section.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of master of arts.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research seminar in which papers are prepared and presented to fellow students and staff.

Further information concerning the degree of master of arts in education may be found under the Department of Education.

MASTER OF ARTS IN LIBERAL ARTS

This degree is offered through the College of Professional and Continuing Education. For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Graduate School of Management. For further information, see listings under the Management section.

MASTER OF HEALTH ADMINISTRATION

This degree is offered through the Graduate School of Management in conjunction with the University of Massachusetts Medical School, Worcester. For further information, see listings under the Management section.

MASTER OF PUBLIC ADMINISTRATION

This is offered as a joint program of the Department of Government and the College of Professional and Continuing Education. For further information, contact the College of Professional and Continuing Education, Clark University.

DOCTOR OF EDUCATION

The program leading to the doctor of education emphasizes human development, learning, and the social context of education as they relate to curriculum, instruction, evaluation, and the management of educational programs and institutions. The requirements for this degree closely parallel those for the degree of doctor of philosophy (see p.45). See catalog section on Department of Education for further information.

DOCTOR OF PHILOSOPHY IN BIOMEDICAL SCIENCES

The Biomedical Sciences Ph.D. Program began in 1975, recognizing certain individuals without a standard academic background, but with previous research experience and an outstanding aptitude for independent research, may benefit from a relatively unstructured program

leading to the Ph.D. degree. This is a cooperative program involving Clark University, the University of Massachusetts Medical School, Worcester Foundation for Experimental Biology, and Worcester Polytechnic Institute. It utilizes the faculty, facilities, and varied research interests in the biomedically related sciences in the Worcester area. The primary criteria for admission are research ability and potential, and evaluation of applicants is based largely on evidence of their previously performed research. Award of the Ph.D. requires passing of a preliminary examination and presentation and defense of a research thesis. Competence in the major field in preparation for the preliminary examination can be achieved through independent study, directed study, or formal courses. The Ph.D. degree may be awarded by either Clark University or Worcester Polytechnic Institute, although dissertation research may be done at any of the participating institutions under the sponsorship of a faculty member from that institution. Areas for conducting of dissertation research reflect the varied research programs of faculty from the participating institutions. These include, but are not limited to: cellular and molecular biology; cell senescence; metabolism, endocrinology, and immunology; pharmacology and experimental pathology; reproductive biology, physiology, neurobiology, and behavioral science; biological engineering, related to nitrogen fixation and development of new symbiotic systems with blue-green algae; bio-mass and bio-energy (silviculture and fermentation technologies).

Admission: The primary criterion used in selection of students for this program is the demonstrated capacity of the applicant to do independent research. In addition to the application form, applicants submit official transcripts of undergraduate and graduate work, Graduate Record Examination (GRE) scores, three letters of reference, and evidence of outstanding research ability (e.g., publications, abstracts, etc.). More complete information may be obtained from the program director.

Applications and all supporting documents should be submitted to the Director, Biomedical Sciences Ph.D. Program, c/o Personnel Office, Worcester Foundation for Experimental Biology, Shrewsbury, MA 01545. Application may be made at any time during the year.

DOCTOR OF PHILOSOPHY

Only well-qualified candidates with proven ability in their special fields of study will be encouraged to proceed to the degree of doctor of philosophy.

Residence: The minimum requirement is one year of full-time study (eight semester-courses) beyond the M.A. or its equivalent in part-time work, in residence.

If the degree of master of arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language

or related requirements as the student's field of research may demand and must report such requirements in each case to the dean of the Graduate School. If a language is required, either a testing service or on-campus tests are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chair of the department may invite other scholars from within or outside the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work or its equivalent in part-time work, including at least one year at Clark University, (2) completed the departmental requirements in a foreign language, (3) passed a preliminary examination in the chosen field of study, (4) obtained the written endorsement of the major department. Application forms can be obtained from the Graduate School Office.

Candidacy for the degree of doctor of philosophy is valid for three years after admission to candidacy. Candidacy may be renewed once, for satisfactory reasons, for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to a specialized field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is presented to the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 350 words, and a precis, not exceeding 75 words, both approved by the dissertation advisers, are also required.

Four weeks before the degree is to be conferred, a presentation-quality copy of the dissertation, together with two official title pages, an academic history, an abstract and a precis, must be delivered to the University format adviser. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis, and academic history forms can be obtained from the format adviser. The presentation-quality copy of the dissertation must be typed or computer-printed as prescribed in *Format Regulations for Theses, Dissertations, and Research Papers and Suggestions for the Preparation of Doctoral Dissertations for Microfilming*. These instructions are available from the format adviser.

The dissertation and abstract become part of the permanent collection in the University library. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Michigan, and is available for duplication on request to that company. The abstract is printed in *Dissertation Abstracts*; the precis is printed by Clark in *Dissertations and Theses*.

Articles published in referred journals may be accepted in lieu of a dissertation with the approval of the department and the graduate dean. Requests for approval should include statements that attest to the originality and significance of the study.

Final Examination: An oral examination lasting at least two hours is required. Additional written examinations may be required if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire specialized field of study. The oral examination is conducted by a committee of at least four members, composed of at least one member of the Graduate Board and such members of the department and nonmembers from within or outside the University as the chair may appoint. The chair notifies the dean of the Graduate School, at least one week in advance, of the time and place of the examination and the composition of the committee. The dean is authorized to invite any person from within or outside the University to be present and to assist in the examination.

Diploma Fee: The fee for the doctor of philosophy degree is \$85. It covers the cost of the diploma, hood, publication of the precis in the publication *Dissertations and Theses*, publication of the abstract in *Dissertation Abstracts*, and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the University format adviser.

Nonresident Students: Continuing students who are not registered for courses at Clark are required to pay a nonresident fee of \$100 per semester to maintain active status. If fees are unpaid, the student will be dropped from the degree program. (Fees double upon renewal of candidacy.) For information on nonresident loan deferment status see *Graduate Tuition* section.

POSTDOCTORAL STUDY

Postdoctoral students are classified in two categories. *Research Associates*, who work full time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and *Postdoctoral Fellows*, who enroll in a formally offered postdoctoral training program.

GRADUATE ACADEMIC REGULATIONS

GRADING

The grades of A and B (with plus and minus) are acceptable for graduate credit; anything lower than a B- is not acceptable. A Pass/Fail grading option is possible, where "P" (pass) signifies that the student has performed at a B- or above level. Incompletes are awarded at the discretion of the instructor.

HOUSING

A limited number of on-campus housing spaces are available through the Office of Housing and Residential Programs. Incoming students have priority for this housing. Further details may be obtained from the Office of Housing and Residential Programs.

Off-campus rooms and apartments for both men and women are available in the immediate area of the University. A limited listing of current housing opportunities is compiled by the Office of Housing and Residential Programs. Students without prior arrangement for University-owned housing are urged to arrive before registration to seek suitable housing in the area.

MEAL PLANS

Graduate students are invited to participate in one of the meal plans offered by University Dining Services. There is a snack bar available on campus.

HEALTH INSURANCE

The University has made health insurance coverage mandatory for all students enrolled in a graduate program. Students must either enroll in the Student Health Insurance Plan offered through the University or provide evidence that they have comparable coverage in another plan.

HEALTH SERVICE

Graduate students who wish to use the on-campus Health Service may do so by paying the health fee each semester at the Cashier's Office. At that time they will receive a receipt from the Cashier to be presented at the Health Service Office and will thus be eligible to use the on-campus services. For a description of the Clark University Health Service, see the listing under Student Services of the undergraduate college.

Graduate Tuition and Other Charges

Full-time Graduate Students:

Tuition: \$11,900 per academic year (or \$5,950 per semester)

In departments that define a full load as four courses per semester, the per-course charge is \$1,487.50. The per-course charge varies in some departments according to their specific definition of a full program.

Students should contact their department chairs to find out which scale applies.

Part-time Graduate Students:

Tuition is charged on a per-course basis according to the scale used in the student's department (generally, \$1,487.50 per course).

Special Graduate Students: (non-degree candidates)

Tuition: \$1,487.50 per course

Tuition and fees differ in the following programs:

Contact the Graduate School of Management for further details on:

Master of Business Administration

Master of Health Administration

Contact the College of Continuing and Professional Education for further details on:

Master of Arts in Liberal Arts

Master of Public Administration

OTHER FEES—payable at registration:

Health Insurance (mandatory)

Single Students; estimated \$285

Student/one eligible dependent \$570

Student/two or more eligible dependents \$855

Health Service Fee (optional) \$100

Diploma Fee—payable at the time the thesis or dissertation is deposited with the Registrar.

Master's Degrees \$ 25

Doctoral Degrees \$ 25

Students who do not write a thesis or dissertation, including those receiving the degree through an alternative program, must pay this fee no later than the date on which theses are due to the University format adviser (generally, April 15).

NONRESIDENT FEES:

\$100

Payable November 1 and March 1: \$100 per semester. All degree candidates who are not formally enrolled in coursework must pay the nonresident fee each semester until the final copy of the thesis or dissertation is approved by the University format adviser. If these fees are not paid by the close of the fiscal year, the student will be dropped from the program. (Fees double upon renewal of candidacy.)

Loan Deferment for Nonresident Students:

Nonresident graduate students who are completing their thesis or dissertation on a *half-time* basis are limited to two years of student deferment status on their college loans. Nonresidents completing their thesis or dissertation on a *full-time* basis are limited to *one year* of student deferment status.

Billing Policy:

Tuition and fees are due within 30 days of date of issuance of invoice. Accounts 30 days or more past due are assessed interest at the rate of 1.5 percent per month (annual rate of 18 percent).

Late Registration Fee:

\$ 25

A late fee of \$25 is charged if registration is not completed by the end of the first week of the semester.

Refund:

Withdrawal from the University requires formal notice, *in writing*, to the dean of the Graduate School. A refund will be made according to the date the dean receives the withdrawal notice. No refunds are made upon withdrawal from a course or courses, only upon withdrawal from the University. Refunds are as follows:

Prior to the start of classes:	100 %
First week of classes:	80 %
Second week of classes:	60 %
Third week of classes:	40 %
Fourth week of classes:	20 %
After fourth week of classes:	0 %

There is no refund on other charges, except board, when a student withdraws from the University.

FINANCIAL ASSISTANCE

U.S. applicants for admission who request financial assistance are required to file a Financial Aid Form with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Allocation of financial aid is not only based on an evaluation of the student's need.

GRADUATE SCHOLARSHIPS, FELLOWSHIPS AND ASSISTANTSHIPS

Graduate fellowships and scholarships are provided for well-qualified students by the University from endowed funds and from other sources. Financial aid to graduate students also is available in the form of grants from a number of special funds and, in some departments, from sponsored research grants. A limited amount of part-time employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chair of the department or director of the program in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the dean of the Graduate School for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

Teaching assistants are assigned a variety of duties according to the needs of the department. Responsibilities include conducting discussion sessions, supervising laboratory sections, holding tutorial sessions, and grading papers and projects. Assistantships typically involve a commitment of approximately half time (an average of 17 1/2 hours a week). Tuition is remitted, and a usual stipend of \$6,100 to \$7,600 depending on program or department, for eight months is awarded.

Note that the departments of biology, chemistry, economics, English, geography, history, physics, and psychology require teaching experience for graduate degrees.

ASSISTANTSHIPS

Assistantships are available in several departments. Assistantships involve a variety of services including research with appropriate stipends and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provided by:

The Alumni Association Fund

The Association of Colored People's Memorial Scholarship Fund

The George S. Barton Fund

The Elnora W. Curtis Fund

The Eliza D. Dodge Fund

The H. Donaldson Jordon Award in History

Dr. Herman W. Dorn Endowed Memorial Graduate Fellowship Fund

The Joseph F. Donnelly Memorial Fund

The John White Field Fund

The Austin S. Garver Fund

Graduate School Scholarship Fund

The George Frisbie Hoar Fund

The M. Howard and Frances Freedman Jacobson Graduate Fellowship Fund

The Ella O. Keene Scholarship Fund

The Myers Fund

The David J. Ott Scholarship

The Charles H. Thurber Fund

For further information about these funds, contact the Graduate School Office.

GRADUATE LOANS

Loans, charging interest at ten percent per year after completion of residency, are available on a limited basis for full-time graduate students upon registration. Applications are available at the Graduate School Office.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund

The Mary M. Thurber Fund

The United States Steel Foundation Fund

For loans from these and other sources that may become available, application should be made at the Graduate School Office.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income from this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The Chester Bland Fund. The income from this fund preferably is used to provide aid to a promising student, either in residence or engaged in research elsewhere, under the direction of the Department of History. It also maybe used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income (only) is to be divided between the Departments of Physics and Chemistry and to be used for any purpose within the scope of these two departments.

The G. Stanley Hall Foundation Fund.

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War I. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in physical geography and to aid the department in that field.

The James A. Maxwell Fund.

The Clara A. Mayo Memorial Fund, established by Joseph A. Weiss in memory of his daughter Clara A. Mayo (Ph.D. 1959). The fund is to be used to provide assistance to women graduate students in the Psychology Department.

Further information about developmental funds is available through the Graduate School Office.

Departments and Courses

American Studies

ARTICIPATING FACULTY

- John J. Conron, Ph.D., program director: American literature, American studies, American landscape.
- George A. Billias, Ph.D.: colonial American history, comparative history, military history
- John C. Blydenburgh, Ph.D.: elections, polling, national politics
- Markyn J. Bowden, Ph.D.: cultural humanistic and historical urban social geography
- James P. Elliott, Ph.D.: American literature, literature and film, contemporary narratives, editing
- Richard B. Ford, Ph.D.: African history, resource management, international development
- Donald P. Formisano, Ph.D.: U.S. political and social history, nineteenth century and since 1945; social movements; community power; historical method
- Donnie Lee Grad, Ph.D.: nineteenth- and twentieth-century art
- Douglas L. Johnson, Ph.D.: cultural ecology, arid lands management
- William A. Koelsch, Ph.D.: history of geography, environmental history
- Baron Krefetz, Ph.D.: urban politics, suburban politics, women and politics
- Robert J. Ross, Ph.D.: urban studies, political sociology, political economy, social policy
- Reilly Tenenbaum, Ph.D.: Judaic studies, race/ethnicity, social stratification

AMERICAN STUDIES CONCENTRATION

The American Studies Program at Clark is neither a department nor a major but a *concentration* of seven required courses designed both as an extension of additional majors and as a coherent undertaking in itself.

Concentration in the American Studies Program offers an interdisciplinary approach to the study of those human values that define American culture and variously manifest themselves in physical, social, and intellectual environments—events, in institutions, and in the arts (primarily literature, painting, film, and architecture). The concentration has two aims. One is to enable students to analyze closely a variety of “texts” (a group of people, a house, a poem) and to place these in a cultural “context,” which brings them into relation with each other. The other is to enable students to arrive at an understanding of American culture as a pattern of values, which permeates American space and changes over time.

Since this course of study is not in itself a discipline but rather a conversation between disciplines, the concentration is based on a conviction that the basis of this conversation is fluency in—or at least acquaintance with—traditional disciplines in the humanities and the social sciences. Students are therefore expected to *augment* their major discipline with introductory work in two other disciplines. They are further expected to integrate and focus their study of American culture in the

program offerings. Finally, they are encouraged to study, beyond the introductory level, topics of interest in the more than thirty courses on American subjects offered at Clark and at affiliated institutions.

Students concentrating in American studies are required to take:

- 1) three core courses: *Introduction to History and American Studies*; *American Culture and Society, 1820-1860*; and *American Thought and Culture Since 1860*.
- 2) four courses in either an American history/literature or an American history/geography sequence. Students interested in the American history/literature sequence would elect two of the following history courses: 200, 201, 202, 206, 208, 209, 219, or 221; and English 169 and 170. Students interested in the American history/geography sequence may include any two of the history courses listed above and two of the following geography courses: 252, 253, 255, or 272.
- 3) senior level work in courses of an interdisciplinary nature such as the existing cluster courses on landscape, sport, and culture and space that have an American focus, or a senior seminar. Consultation with the program director in senior level course work is strongly recommended.

AMERICAN STUDIES ELECTIVES

More than thirty courses in American subjects are taught at Clark and affiliated institutions. A list of the courses is available in the History and English Departments.

See Departments for appropriate listings.

COURSES

INTRODUCTION TO HISTORY AND AMERICAN STUDIES/Seminar

An introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior is examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings are read and discussed. Refer to course listing under English and History.

Mr. Formisano, Mr. Ford

Offered every year

AMERICAN CULTURE AND SOCIETY, 1820-1860/Discussion

An interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention is paid to the cultural geography, the arts (primarily literature and painting), and to some significant political and social issues of the period. Some of the germinal works in American studies (Leo Marx's *The Machine in the Garden* and R.W.B. Lewis's *The American Adam*, for example) are read to provide contexts for the study of representative cultural and social expressions of the period. The course includes field trips. Refer to course listing under English and History.

Not offered in 1988-89

AMERICAN THOUGHT AND CULTURE SINCE 1860/Discussion

Examines selected cultural patterns and themes in American thought from the Civil War onward. Readings and discussions draw on multiple disciplinary perspectives.

Not offered in 1988-89

Ancient Civilization

PROGRAM FACULTY

Paul F. Burke Jr., Ph.D., *program coordinator*: Greek and Latin language and literature, Classical mythology, Classical art and archaeology, ancient history
Everett Fox, Ph.D.: Jewish ritual and folklore, Classical Jewish thought
Daniel C. Shartin, Ph.D.: history of ancient philosophy, Plato, Aristotle
Rhys F. Townsend, Ph.D.: ancient Greek art and architecture, underwater archaeology, Classical tradition in Western art, early Christian and Byzantine art

PROGRAM AND MAJOR IN ANCIENT CIVILIZATION

The Program in Ancient Civilization consists principally of courses offered by the four primary faculty participants whose scholarly fields are art history, classics, Jewish studies, and philosophy. Courses offered by other Clark faculty that fall into the general category of ancient civilization will be cross-listed as available, and courses from other consortium colleges may be used to enhance this major.

The program offers an undergraduate major and makes available courses covering the entire spectrum of ancient Mediterranean culture including Greek, Hebrew, and Latin languages. Emphasis throughout the program is placed on developing familiarity with the ancient world for a sound understanding of the roots of modern Judaeo-Christian culture. The purpose of the major in particular is to supply the student with a sound interdisciplinary knowledge of the ancient Greco-Roman and Judaeo-Christian roots of Western civilization. Majors are expected to acquire a working knowledge of at least one of the principal languages of the ancient Mediterranean (Classical Greek, Hebrew, or Latin); this language component of the major program ensures direct access to the culture, literature, philosophy, and history of the ancient world. Program faculty are also anxious that their courses be accessible to the general undergraduate population in order that as many Clark students as possible may be introduced to the various aspects of the ancient world by the comprehensive series of courses brought together here. By incorporating art history, Jewish studies, and philosophy with what has been traditionally identified as classics (Greek and Latin language and literature), the Clark Program in Ancient Civilization presents established disciplines in a stimulating and original configuration.

Students majoring in ancient civilization, and in some related areas, are eligible to apply for admission to the Intercollegiate Center for Classical Studies in Rome, where they will spend a semester studying Classical literature and archaeology.

MAJOR REQUIREMENTS

In order to graduate as an ancient civilization major, a student must complete successfully at least ten courses in ancient civilization. These courses must include:

1. at least two courses, not both in the same department, from the group of foundation courses:
Art History 101, *Introduction to Western Art I*
Art History 110, *Ancient Greek Art*
Classics 111, *Roman Art and Architecture*
Classics 121, *Introduction to Greek Culture*
History 174, *The Jewish Experience*
Philosophy 121, *History of Western Philosophy*
2. at least one semester course at or above the intermediate level (language 103) in Greek, Hebrew, or Latin.
3. a one-semester senior seminar, to be taken preferably during the second semester of the senior year, to include the writing of a major research paper, and to be arranged in consultation with at least two members of the program faculty by the end of the junior year.

COURSES

A. ART HISTORY

101 INTRODUCTION TO WESTERN ART I

Refer to course description under Art History.
Mr. Townsend

Offered every year

105 THE AEGEAN WORLD

Refer to course description under Art History.
Mr. Townsend

Offered periodically

106 INTRODUCTION TO ARCHAEOLOGY

Refer to course description under Art History.
Mr. Townsend

Offered every other year

109 CLASSICAL MYTH AND THE GREEK IDEAL

Refer to course description under Art History.
Mr. Townsend

Offered every other year

110 ANCIENT GREEK ART

Refer to course description under Art History.
Mr. Townsend

Offered every other year

111 ROMAN ART AND ARCHITECTURE

Refer to course description under Classics.
Mr. Burke

Offered every other year

114 ANCIENT CITIES AND SANCTUARIES

Refer to course description under Art History.
Mr. Townsend

Offered every other year

115 THE TEMPLE BUILDERS: ARCHITECTURE IN ANCIENT GREECE

Refer to course description under Art History.
Mr. Townsend

Offered every other year

B. CLASSICS

GREEK

101/102 INTRODUCTORY GREEK

Refer to course description under Classics.
Mr. Burke

Offered every year

103/104 INTERMEDIATE GREEK

Refer to course description under Classics.
Mr. Burke

Offered every year

LATIN

101/102 INTRODUCTORY LATIN

Refer to course description under Classics.
Mr. Burke

Offered every other year

103/104 INTERMEDIATE LATIN

Refer to course description under Classics.
Mr. Burke

Offered every year

CLASSICS COURSES TAUGHT IN ENGLISH

111 ROMAN ART AND ARCHITECTURE

Refer to course description under Classics.
Mr. Burke

Offered every other year

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics.
Mr. Burke

Offered every other year

124 INTRODUCTION TO CLASSICAL MYTHOLOGY

Refer to course description under Classics.
Mr. Burke

Offered every other year

135 CLASSICAL GREEK TRAGEDY

Refer to course description under Classics.
Mr. Burke

Offered every other year

157 THE AGE OF NERO

Refer to course description under Classics.
Mr. Burke

Offered every other year

250 NARRATIVE IN ANCIENT HISTORICAL WRITING

Refer to course description under Classics.
Mr. Burke

Offered every other year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics.
Mr. Burke

Offered every other year

C. JEWISH STUDIES

HEBREW

101/102 ELEMENTARY HEBREW

Refer to course description under Foreign Languages and Literatures/Hebrew.
Ms. Nave

Offered every year

103 INTERMEDIATE HEBREW

Refer to course description under Foreign Languages and Literatures/Hebrew.
Ms. Nave

Offered every year

104 INTERMEDIATE/ADVANCED HEBREW

Refer to course description under Foreign Languages and Literatures/Hebrew.
Ms. Nave

Offered every year

D. PHILOSOPHY

21 HISTORY OF ANCIENT PHILOSOPHY

Refer to course description under Philosophy.141.
Mr. Pakaluk

Offered every year

250 PLATO/Seminar

Refer to course description under Philosophy.
Mr. Pakaluk

Offered every other year

251 ARISTOTLE/Seminar

Refer to course description under Philosophy.
Mr. Pakaluk

Offered every other year

E. HISTORY

174 THE JEWISH EXPERIENCE

Refer to course description under History.
Staff

Offered every year

F. COMPARATIVE LITERATURE

120 THE EPIC JOURNEY

Refer to course description under Comparative Literature.
Mr. Burke

Offered every other year

G. GEOGRAPHY

174 THEMES IN CLASSICAL GEOGRAPHIC THOUGHT

Refer to course description under Geography.
Mr. Koelsch

Offered every other year

Art

See Department of Visual and Performing Arts.

Asian Studies

PARTICIPATING FACULTY

Paul S. Ropp, Ph.D., *coordinator*: Chinese and Japanese history
Cynthia H. Enloe, Ph.D.: Japanese and Southeast Asian politics
Robert C. Hsu, Ph.D.: Chinese and Japanese economics

ADJUNCT FACULTY

Michiko Y. Aoki, Ph.D.: Japanese language and literature
Thomas Gottschang, Ph.D.: Chinese economics (College of the Holy Cross)
Douglas Johnson, Ph.D.: Southwest Asian geography
Claudia Ross, Ph.D.: Chinese language and linguistics (College of the Holy Cross)
Elizabeth Swinton, Ph.D.: Asian art (Worcester Art Museum)
Karen Turner, Ph.D.: Chinese history (College of the Holy Cross)
Alice Valentine, M.A.: Japanese history and culture

UNDERGRADUATE PROGRAM

Asian Studies is an interdisciplinary undergraduate program which can be taken as a concentration within a regular major in comparative literature, history, international development or government. In addition to Asian Studies courses offered at Clark, students may apply to study one year abroad at Kansai Gaidai or Sophia University in Japan, to take advanced courses there in Japanese language and other Japan- and Asia-related fields. Through the Worcester Consortium for Higher Education, Clark students may also take courses in Chinese language and other Asia-related fields at the College of the Holy Cross. In cooperation with Clark's International Programs Office, students may also make special arrangements to study one year abroad in the People's Republic of China.

To concentrate in Asian studies, a student must take five Asian studies courses, including Asian Studies 80, *Introduction to Modern Asia*, and an Asia-related seminar or independent research project. Students concentrating in Asian studies are encouraged, though not required, to study one year abroad in Asia and to take at least one year of Chinese or Japanese language.

Students who concentrate in Asian studies are also encouraged to take courses from the following list of related courses: GEOG 027, *Geography of the Third World*; GEOG 127, *Political Economy of Underdevelopment*; GEOG 140, *Cities and Culture: Non-American City*; GEOG 284, *Landscapes of the Middle East*; GOVT 117, *Revolution and Political Violence*; GOVT 222, *Strategies of Development and Change in Communist Political Systems*; GOVT 261, *Women and Militarization in a Comparative Politics Perspectives*; HIST 90, *Twentieth-Century Global History*; ID 125, *Development Problems*; and (depending on the topic) HIST 291, *Seminar in Advanced Topics in International Relations*. These courses do not carry Asian studies credit, but they each deal with Asia at some point in the course. They are therefore recommended to supplement the list of regular Asian studies courses that follows.

COURSES

31 GREAT BOOKS OF CHINA/Lecture, Discussion

Refer to course description under History 31.

Mr. Ropp

Offered every other year

80 INTRODUCTION TO MODERN ASIA/Lecture

A survey of modern historical trends in India, China, Japan, Southeast Asia, and Korea. Through political biographies, literary selections, and general histories, the course compares native traditions, colonial experiences, and postcolonial developments in Asia since 1800.

Mr. Ropp

Offered every other year

101-102 ELEMENTARY JAPANESE/Lecture, Discussion

An introduction to the Japanese language, with emphasis on speaking, listening, reading and writing. In addition to spoken Japanese, students learn hiragana and katakana in the first semester, and begin learning kanji in the second.

Ms. Aoki

Offered every year

103-104 INTERMEDIATE JAPANESE/Lecture, Discussion

A continuation of first-year Japanese, with emphasis on learning kanji, mastering more complex grammatical forms, and increasing fluency in spoken Japanese.

Ms. Aoki

Offered every year

177 CHINESE AND JAPANESE ECONOMIES/Lecture, Discussion

Refer to course description under Economics 177.

Mr. Hsu

Offered every other year

181 TRADITIONAL CHINA/Lecture

Refer to course description under History 181.

Mr. Ropp

Offered every other year

182 MODERN CHINA/Lecture

Refer to course description under History 182.

Mr. Ropp

Offered every other year

184 MODERN JAPAN: RISE OF A GREAT INDUSTRIAL POWER/Lecture

Refer to course description under History 184.

Mr. Ropp, Staff

Offered every other year

236 POLITICS OF PHILLIPINES AND VIETNAM/Lecture, Discussion

Refer to course description under Government 236.

Ms. Enloe

Offered every other year

265 POLITICS OF JAPAN/Lecture, Discussion

Refer to course description under Government 265.

Ms. Enloe

Offered every other year

280 SEMINAR IN ASIAN HISTORY/Seminar

Topical seminar in Asian History for Asian Studies majors.

Mr. Ropp

Offered periodically

281 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

Refer to course description under History 281.

Mr. Ropp

Offered every other year

282 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Refer to course description under History 282.

Mr. Ropp

Offered periodically

Astronomy

1 EXPLORING THE UNIVERSE

This course is explicitly designed for the nonscience major who wishes to learn about the stars. It is intended to provide for the interests of the student who seeks an acquaintance with the concepts and methods of science but who does not wish to go into the depth of the typical introductory science survey course. Topics considered are interdisciplinary in character since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized; only simple algebra is utilized. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles, and the galaxies are studied. Theories of the composition and origin of the solar system, of the universe, and of life are explored. The heavens are best understood by having students make direct observations of celestial objects. Emphasis is on the moon, sun, planets, meteors, stars, variable stars, nebulae, and galaxies. Students make these observations using telescopes in the university observatory. This course satisfies the *scientific perspective* requirement in the Program of Liberal Studies.

Mr. Andersen

Offered every fall

Biochemistry and Molecular Biology

PROGRAM FACULTY

M. Margaret Comer, Ph.D., *program director*: molecular genetics
John J. Brink, Ph.D.: metabolic regulation, pharmacology, neurochemistry
Frederick Greenaway, Ph.D.: bioinorganic chemistry, electron spin resonance
Donald J. Nelson, Ph.D.: protein chemistry, pharmacology
David L. Thurlow, Ph.D.: biochemistry, molecular biology

AFFILIATE FACULTY

George E. Wright, Ph.D.: pharmacology, drug-DNA polymerase interactions

PROGRAM

Biochemistry and Molecular Biology is an interdepartmental program sponsored jointly by the Biology and Chemistry Departments. It offers an undergraduate major designed to provide students with more depth in this field than is provided by the departmental majors. The program is suitable for students who want to (1) pursue graduate studies in the field, (2) enter medical school with a strong background in a basic science, or (3) take laboratory or other science-related positions after graduation. Those wishing to major in biochemistry and molecular biology must select an adviser within the program and file a plan of study with the program director.

REQUIREMENTS FOR THE MAJOR

The core curriculum consists of the following required courses:

Introduction to Calculus (Math 120 and 121, or 124 and 125)

Introduction to Physics (Physics 110 and 111 or 112)

Introductory Chemistry (Chemistry 101 and 102)

Introduction to Biology (Biology 101 and 102)

Organic Chemistry (Chemistry 131 and 132)

Physical Chemistry I (Chemistry 160)

Biochemistry I and II (Biochemistry 271 and 272)

Beyond this point the student has a choice of two tracks, emphasizing either biochemistry or molecular biology.

Courses required for the biochemistry track:

Genetics (Biology 118) or *Microbiology* (Biology 109)

Cell Biology (Biology 137) or *Physiology* (Biology 240)

Biophysical Chemistry (Biochemistry 164)

Bioanalytical Chemistry (Biochemistry 144)

Courses required for the molecular biology track:

Genetics (Biology 118)

Cell Biology (Biology 137) or *Microbiology* (Biol 109)

Molecular Genetics (Biochemistry 228) or *Structure and Function of Nucleic Acids* (Biochemistry 276)

Recombinant DNA (Biochemistry 231)

In addition, students must complete two additional courses related to biochemistry and molecular biology. This requirement may be satisfied with any of the program offerings, or a directed research course, or any biology or chemistry course in the list above (and not already used to fulfill a requirement), or other biology or chemistry courses if approved by the adviser.

HONORS REQUIREMENTS

Students interested in the honors program should contact program faculty members with whom they would like to do research and then must apply in writing to the program director for admission. A "B" average is required. In addition to the course requirements listed above, honors candidates must complete an honors thesis or publication based on a research project, defend the thesis orally (usually by a seminar presentation), and pass the biochemistry part of the American Chemical Society exams. Students are encouraged to begin their research in the summer following the junior year.

COURSES

144 BIOANALYTICAL CHEMISTRY/Lecture, Laboratory

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics discussed include chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 132. In-class and final exams, laboratory reports.

Mr. Nelson

Offered every other year

164 BIOPHYSICAL CHEMISTRY/Lecture, Laboratory

This rigorous course in physical chemistry, offered as an alternative to Chemistry 162, emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, and X-ray diffraction. Prerequisite: Chemistry 160.

Mr. Nelson

Offered every other year

228 MOLECULAR GENETICS/Lecture, Seminar

Explores recent discoveries in the molecular genetics of prokaryotes and eukaryotes, with emphasis on new findings from recombinant DNA technology and DNA sequencing. Topics include protein synthesis, RNA transcription, gene regulation, repetitive DNA, gene cloning, split genes, gene families, transposable elements, oncogenes, and antibody gene rearrangement. Intended primarily for seniors and graduate students. Prerequisite: Biochemistry 272 or Biology 118 or permission of instructor.

Ms. Comer, Mr. Thurlow

Offered every other year

231 RECOMBINANT DNA/Lecture, Laboratory

An introduction to gene cloning techniques. Students clone *Escherichia coli* DNA in a plasmid vector; specific experiments include DNA purification, restriction enzyme digestion, agarose gel electrophoresis, DNA ligation, bacterial transformation, genetic characterization of recombinants, restriction mapping, and DNA sequencing. Two laboratory periods per week. Prerequisites: Biology 118; Biology 109 or Biochemistry 271.

Ms. Comer

Offered every other year

271 BIOCHEMISTRY I/Lecture, Laboratory

272 BIOCHEMISTRY II/Lecture

This two-semester course provides a comprehensive and up-to-date survey of the field of biochemistry. The first semester covers cell metabolism and protein structure and function; the second semester deals with nucleic acid and protein metabolism and other topics. A laboratory component for the first semester acquaints students with methods and instrumentation used in biochemical research. Prerequisite: Biology 101 and 102, Chemistry 132.

Mr. Brink, Ms. Comer, Mr. Nelson, Mr. Thurlow

Offered every year

273 NEUROCHEMISTRY/Lecture

The metabolic aspects of brain amines and biopolymers are considered in relation to neural function. Effects of drugs on memory processes, pain, and emotion are discussed in terms of biochemical mechanisms. Prerequisite: Biology 101 and 102, Chemistry 132, or permission of instructor.

Mr. Brink

Offered every other year

275 PROTEIN CHEMISTRY/Lecture

Discusses the structure and function of biologically important macromolecules. Particular emphasis is placed on proteins (enzymes and noncatalytic proteins), protein synthesis from nucleic acids, and the structure and function of biological membranes. Prerequisite: Chemistry 132.

Mr. Nelson

Offered every other year

276 STRUCTURE AND FUNCTION OF NUCLEIC ACIDS/Lecture

This course discusses principles of nucleic acid structure, including types of helices, primary structure, secondary structure, and supercoiling. In the second half of the course, students discuss papers relating the principles of structure to a particular function such as storage, expression of information, catalysis, and evolution of the genetic code. Prerequisite: Biochemistry 272.

Mr. Thurlow

Offered every other year

277 BIOCHEMISTRY OF DISEASE/Lecture, Discussion

This course considers biochemical systems that are perturbed in metabolic regulatory processes, as in cardiovascular disease, hormonal imbalance (diabetes), and genetic defects (Tay-Sachs disease). The effects of environmental influences represented by drug and nutrient components also are considered. Prerequisite: Biology 101 and 102, Chemistry 132, or permission of instructor.

Mr. Brink

Offered every other year

2991 DIRECTED READINGS/Discussion

Advanced readings in the scientific literature under the direction of a professor. Prerequisite: permission of instructor.

Staff

Offered every semester

2992 DIRECTED RESEARCH/Laboratory

Individual investigations involving laboratory research under the direction of a professor. Offered for variable credit. Prerequisite: permission of instructor.

Staff

Offered every semester

2998 HONORS RESEARCH/Laboratory, Discussion

Primarily for a major seeking departmental honors in biochemistry and molecular biology. Involves a laboratory research project and participation in departmental seminars. Offered for variable credit. Prerequisite: admission into the honors program.

Staff

Offered every semester

Biology

DEPARTMENT FACULTY

Timothy A. Lyerla, Ph.D., *chair*: developmental and biochemical genetics, human genetic diseases

Vernon Ahmadjian, Ph.D.: botany, mycology, symbiosis

John J. Brink, Ph.D.: biochemistry, neurochemistry, nutrition

M. Margaret Comer, Ph.D.: molecular genetics

Joseph C. Curtis, Ph.D.: cell biology, electron microscopy, endocrinology

H. William Johansen, Ph.D.: phycology, marine biology

Linda M. Kennedy, Ph.D.: physiology, neurobiology, sensory function, taste

Todd P. Livdahl, Ph.D.: population biology, community ecology, evolution, biostatistics

John T. Reynolds, Ph.D., M.P.H.: applied and environmental microbiology, environmental health

Nicholas S. Thompson, Ph.D.: animal behavior, evolutionary theory

Robert R. Weihing, M.D., Ph.D.: cytoskeletal proteins, cell motility

ADJUNCT FACULTY

Charles S. Blinderman, Ph.D.: history of biology, Darwinism, human evolution
Halina S. Brown, Ph.D.: health and risk assessment, environmental chemistry, regulatory toxicology

Stanley R. Herwitz, Ph.D.: hydrology, soil/water plant relationships, biogeography, field methods and instrumentation

Donald J. Nelson, Ph.D.: biochemistry, bioinorganic chemistry

David L. Thurlow, Ph.D.: molecular biology

AFFILIATE FACULTY AND RESEARCH ASSOCIATES

Robert Beck, Ph.D.

Clayton B. Cook, Ph.D.

Janice S. Edgerly, Ph.D.

Paul A. Erickson, Ph.D.

Jerome B. Jacobs, Ph.D.

David Kupfer, Ph.D.

Surindar Paracer, Ph.D.

John G. Torrey, Ph.D.

UNDERGRADUATE PROGRAM

The department offers courses that (1) prepare students for work and advanced study in the biological and the biomedical sciences, (2) provide support for other programs within the University that require students to obtain a background in one or more subfields of biology, and (3) meet the needs of nonscience majors who wish to integrate the perspectives of the science of biology into a liberal arts curriculum. The major in biology is especially suitable for students who intend to go on to professional schools in the health sciences or graduate work in a variety of subfields of the biological sciences. Requirements for the biology major include:

— eight courses in biology, including Biology 101 and 102 (see below)

— two courses in chemistry (Chemistry 101 and 102)

— two courses in mathematics (Math 120 and 121)

— two courses in physics (Physics 101, and 111 or 112)

— two additional lecture/laboratory courses in chemistry (usually Chemistry 131 and 132), geology, or physics.

— nine courses outside the fields of biology, chemistry, geology, mathematics, or physics

Science and mathematics courses offered to meet the major requirements may not be taken with a "pass" option.

Of the eight required biology courses, at least one must be completed in each of the following three areas:

(1) cellular and molecular biology, examples include *Genetics* (Biology 118), *Cell Biology* (Biology 137), *Biochemistry* (Biology 217);

(2) organismal biology, examples include *Microbiology* (Biology 109), *Botany* (Biology 110), *Symbiosis and Parasitism* (Biology 211), *Invertebrate Zoology* (Biology 116), *Comparative Anatomy* (Biology 112), or *Physiology* (Biology 240); and

(3) population biology, examples include *Marine Biology* (Biology 114), *Ecology* (Biology 216), *Population Biology* (Biology 220), or *Environmental Health* (Biology 235). Please note that the two semester course, *Introduction to Biology* (Biology 101 and 102), is a prerequisite for all other courses in biology that will be used to meet the requirements for a major.

Prospective majors are urged to consult with an adviser selected from the department's faculty. With careful guidance a student can maximize the benefits associated with the options available within the major. Included among these options are opportunities to participate in ongoing research in the honors program, specialized research courses, and internships.

NEUROSCIENCE CONCENTRATION

A biology major interested in a career in any of the physiological sciences, medicine or health care, may wish to concentrate in the interdisciplinary study of neuroscience. An undergraduate who wishes to focus on neuroscience can major in either biology or psychology with a concentration in neuroscience. Both major concentrations require similar coursework. Those interested in a psychology major should refer to the psychology section of this catalogue.

A neuroscience concentration with a major in biology must fulfill the requirements of the biology major and take the following courses:

— *Neuroscience I and II* (Biology 160 and 161)

— four additional courses selected from a list of approved neuroscience course offerings (available in the department office)

— A capstone research project to be started no later than the second semester of the junior year. This project must be under the direction of a full-time neuroscience faculty member.

Students with a biology neuroscience concentration are strongly encouraged to take *Genetics*, *Cell Biology*, and *Physiology*. Those with a neuroscience concentration are encouraged to take *Biochemistry*, computer science courses (e.g., *Computer Programming I*), and an appropriate philosophy course (e.g., *Biomedical Ethics*, *Philosophy of Science*, *Philosophy of Mind* or *Philosophy of Biology*). Concentrators are also encouraged to take humanities courses and to become proficient in a foreign language.

HONORS PROGRAM

Well-qualified upper division majors in biology are eligible for admission to a program that can lead to a bachelor of arts degree with honors in biology. A candidate for honors in biology must meet all requirements of the major, maintain a high grade point average, complete an independent research project under the supervision of a departmental faculty member, prepare an acceptable thesis, and pass a final comprehensive examination. The criteria for admission into the honors program are outlined in material available from the department.

GRADUATE PROGRAMS

The department offers coursework leading to the Master of Arts and Doctor of Philosophy degrees in Biology. Candidates for these degrees can emphasize Biochemical and Developmental Genetics, Cell Biology, Endocrinology, Environmental Microbiology, Marine Phycology, Molecular Genetics, Neurochemistry and Regulatory Biochemistry, Population Ecology and Population Genetics, Sensory Neurophysiology, or Symbiosis and Parasitism.

In addition, there are opportunities for interdepartmental work in biochemistry, molecular biology, the neurosciences, and environmental sciences.

It will be assumed that all students admitted to the department's graduate program(s) will be working toward the doctoral degree, but it may be appropriate that some students complete the master's program before beginning doctoral work. Students applying for admission to either program must demonstrate adequate preparation in the basic sciences, an overall undergraduate record of *B* or better, and satisfactory scores on the Graduate Record Examination. Tuition scholarships and research and teaching assistantships are available to qualified students. Further information can be obtained from the department chair.

MASTER OF ARTS

A candidate for the Master of Arts degree must complete three to four semesters of academic work, pass a qualifying examination before the end of the second semester in residence, acquire teaching and research experience, and defend an acceptable thesis. Specific requirements for individual students will be determined by the faculty advisers.

DOCTOR OF PHILOSOPHY

Qualified students may be admitted into the doctoral program. The minimal requirements for a candidate for the doctoral degree are determined by the University and can be found in the section of this catalogue describing the Graduate School. Additional requirements and the details of individual programs will be determined by the student's advisory committee.

COURSES RECOMMENDED FOR NONSCIENCE MAJORS

10 THE BIOLOGICAL WORLD/Lecture

An introductory course for those not majoring in biology. The course is a survey of biology and includes the relationships of various plants and animals to human society. Current biological problems are also considered. Not for biology major credit. Biology 101, 102 *not* required.

Staff

Offered every year

11 GENETICS AND SOCIETY/Lecture

For the nonscience major, this basic course in genetics emphasizes methods of genetic analysis in humans and the role of genetics in modern society. Topics include genetic diseases, chromosomal abnormalities, genetic screening, statistical analyses for polygenic traits, and population genetics. Biology 101, 102 *not* required.

Mr. Lyerla

Offered periodically

COURSES OFFERED FOR SCIENCE MAJORS AND OTHER QUALIFIED STUDENTS

101 INTRODUCTION TO BIOLOGY I/Lecture, Laboratory

102 INTRODUCTION TO BIOLOGY II/Lecture, Laboratory

A two-semester course designed with three goals in mind: (1) to provide students with an understanding of the unifying themes in modern biology, (2) to introduce students to the diversity of life forms at all levels of organization, and (3) to illustrate the methods and modes of scientific inquiry in the biological sciences. The emphasis is on organismic and evolutionary biology during one semester and on cellular and molecular biology during the other semester. Both semesters must be completed for enrollment in advanced courses offered to satisfy the requirements of the biology major. Prior approval of the chair of the department must be obtained if a qualified student wishes this requirement to be waived.

Staff

Offered every year

103 BIOGEOGRAPHY/Lecture

Past and present geographical distributions of plant and animal species are considered in relation to continental drift, species interactions, dispersal strategies, biological evolution, and human activity. Island biogeography and the biogeography of tropical vascular plants are emphasized. Prerequisites: Biology 101 and 102.

Mr. Herwitz

Offered every year

109 MICROBIOLOGY/Lecture, Laboratory

An introduction to the fundamental principles and methods of microbiology with applications to the biomedical and environmental sciences. Emphasis is on bacteriology. Prerequisites: Biology 101 and 102, Chemistry 102, or permission of instructor.

Mr. Reynolds

Offered every year

110 BOTANY/Lecture, Laboratory

Structure, development, and evolutionary relationships of plants are examined along with plant functions such as photosynthesis, communication, and transport. Aspects of the molecular biology of plants, plant ecology, genetics, hormones, and nutrition are discussed. The diversity of plants is reviewed, as is their role in symbiosis and genetic engineering. Protists, fungi, and bacteria are considered in relation to plants. Prerequisites: Biology 101 and 102.

Mr. Ahmadjian

Offered every year

112 COMPARATIVE ANATOMY/Lecture, Laboratory

An introduction to the comparative study of the morphology of the vertebrates with emphasis on the evolution of animals from fish to humans. Anatomical analyses of vertebrate organ systems are stressed. Prerequisites: Biology 101 and 102.

Mr. Lyerla

Offered every other year

114 MARINE BIOLOGY/Lecture, Field Trips

An introduction to plant and animal life in the oceans from the point of view of diversity, ecology, and evolution. Included are the relationships of marine biology to the welfare of mankind. Prerequisites: Biology 101 and 102.

Mr. Johansen

Offered every year

115 FLOWERING PLANTS/Lecture, Laboratory

An introduction to the identification, classification, evolution, and ecology of

flowering plants. Ferns, fern-allies, and gymnosperms are considered. Includes short field trips to nearby areas to examine the spring flora. Prerequisites: Biology 101, 102, and permission of instructor.

Mr. Ahmadjian

Offered periodically

116 INVERTEBRATE ZOOLOGY/Lecture, Laboratory

A survey of 96 percent of all animal species, this course examines the major invertebrate groups from morphological, ecological, and evolutionary perspectives. Two lectures and one laboratory session per week. Prerequisites: Biology 101 and 102.

Mr. Livdahl

Offered every other year

118 GENETICS/Lecture, Discussion

Course covers Mendelian genetics; the molecular nature and function of the gene; gene and chromosome mutation; genetic mapping in bacteriophages, bacteria, fungi, and higher organisms; and population genetics. Prior exposure to college-level chemistry is recommended. Prerequisites: Biology 101 and 102.

Ms. Comer, Mr. Lyerla

Offered every year

135 THE PARADOX OF ANIMAL SOCIALITY/Lecture, Discussion

Refer to course description under Psychology 135. Prerequisites: Biology 101 and 102.

Mr. Thompson

Offered every year

137 CELL BIOLOGY/Lecture, Laboratory

The cell as a structural and functional unit is studied. Included are introductions to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin, and discussion of the roles of the nucleus, cytoplasm, and cell membranes in the regulation of cell metabolism. Prerequisites: Biology 101 and 102.

Mr. Curtis

Offered every year

160 NEUROSCIENCE I/Lecture, Laboratory, Discussion

The first of a two-course introduction to invertebrate and vertebrate nervous systems. Basic anatomy, physiology and chemistry, and the function of sensory and motor systems are covered. Emphasis is on classical and current research and on neuroscience as a complex of research problems requiring integrated anatomical, electrophysiological, chemical, and behavioral approaches. Guest lecturers include neuroscientists from the Biology, Chemistry, Physics, and Psychology Departments at Clark and from neighboring institutions. Prerequisites: Biology 101, 102, and Psychology 160.

Ms. Kennedy

Offered every year

161 NEUROSCIENCE II/Lecture, Discussion

The second of a two-course introduction to nervous systems. Surveys current problems in neuroscience including theories of brain function. Emphasis is on the underlying physiological mechanisms that mediate behavior, i.e. motivation, emotion, learning, and memory. The course is constructed on a systems approach designed to demonstrate the complex and interdependent relationship of the body and brain to behavior. Prerequisite: Biology 160.

Ms. Kennedy

Offered every year

170 NUTRITION AND METABOLISM/Lecture

Human health is studied from the perspective of the chemistry of biological

regulatory processes. The basic components of food are presented, and their biological function of maintaining human growth and vitality is studied. The role of food additives and cultural variations in diet in regard to pathology is discussed. Prerequisites: Biology 101, 102, and Chemistry 101, 102.

Mr. Brink
Offered every other year

183 LANGUAGE OF BIOLOGY/Lecture

Concerned with the study of Latin and Greek roots and affixes that constitute biological terms in disciplines such as paleontology, taxonomy, and anatomy. The course also surveys the history of biology through its language: when certain concrete and abstract terms entered the language, who invented them, how their meaning may have changed, and possible alternate contemporary definitions.

Prerequisites: Biology 101 and 102.

Mr. Blinderman
Offered periodically

195 PURSUIT OF INQUIRY/Lecture, Discussion

Refer to course description under Psychology 195. Prerequisites: Biology 101 and 102.

Mr. Thompson
Offered every year

200 LABORATORY IN ETHOLOGY

Refer to course description under Psychology 200. Prerequisites: Biology 101 and 102.

Mr. Thompson
Offered periodically

201 ISLAND BIOGEOGRAPHY/Lecture, Field trip

A study of the biology and geology of islands, with special emphasis on Bermuda. The course includes lectures, projects, and a one-week field trip to Bermuda Biological Station during the University spring vacation. Prerequisites (or corequisites): Biology 101 and 102, and Geology 100 or Biology 110, Biology 114, Biology 116, Biology 216, or Biology 103/Geography 112. A laboratory fee of approximately \$700 is required.

Mr. Herwitz, Mr. Johansen, Mr. Livdahl
Offered every year

204 WATERSHED ECOLOGY/Lecture, Discussion

Advanced seminar examining current scientific literature on the biogeochemistry of contrasting forested ecosystems. Topics include the inputs, outputs, and internal transfers of energy and nutrients in north temperate hardwood forests, tropical rainforests, cloud forests, eucalypt woodlands, and baldcypress swamps. The Hubbard Brook ecosystem study is considered in detail. Includes a field trip to the Hubbard Brook experimental watershed in the White Mountains. Prerequisites: Biology 101 and 102.

Mr. Herwitz, Mr. Livdahl
Offered every other year

211 SYMBIOSIS AND PARASITISM/Lecture, Discussion

Symbiotic and parasitic associations including animals, plants, protists, fungi, and bacteria are studied. The descriptive and functional aspects of each type of association are considered along with the experimental techniques that are used to study interrelationships between symbionts. Prerequisites: Biology 101 and 102.

Mr. Ahmadian
Offered every other year

216 ECOLOGY/Lecture

Provides an overview of ecology as a scientific discipline. The primary emphasis is on efforts to explain and predict the distribution and abundance of organisms,

how ecological communities are composed, and why they vary in time and space. Prerequisites: one or more courses from organismal biology group and one college-level math course.

Mr. Livdahl

Offered every year

220 POPULATION BIOLOGY/Lecture

Examines the properties that exist only at the population level, including schedules for birth and death, population growth patterns, spatial variation in abundance, genetic variation, and the factors that modify these features over time. Prerequisites: Biology 118, 216, or permission of instructor.

Mr. Livdahl

Offered every other year

221 EMBRYOLOGY AND DEVELOPMENT/Lecture, Laboratory

Considers the fundamentals of animal development with primary emphasis on the vertebrate embryo. Prerequisite: Biology 121 or permission of instructor.

Mr. Lyerla

Offered every other year

222 COMMUNITY ECOLOGY/Seminar

Factors affecting the biological structure of natural communities are examined, with close attention to field experiments on competition and predation. Prerequisites: Biology 101, 102, and permission of instructor.

Mr. Livdahl

Offered periodically

224 ENDOCRINOLOGY/Lecture

The chemistry and biological actions of hormones are discussed with emphasis on the mammalian endocrine system. Integration of studies of the ultrastructure and biochemistry of endocrine glands and their target tissues are a major focus of this course. Prerequisites: Biology 101 and 102.

Mr. Curtis

Offered every year

225 ELECTRON MICROSCOPY/Lecture, Laboratory

An introduction to the principles of electron optics, use of the electron microscope, preparation of specimens, and the techniques of electron microscopy applicable to biological investigation. Prerequisites: Biology 101, 102, and 137.

Mr. Curtis

Offered every year

226 RESEARCH IN PERCEPTION/Laboratory, Discussion

Refer to course description under Psychology 226. Prerequisites: Biology 101 and 102.

Ms. Wiser

Offered every year

227 EXPERIMENTAL CELL CULTURE/Lecture, Laboratory

An introduction to the methods used for propagation and experimental investigations of cells derived from multicellular organisms. Topics include maintenance and passaging of immortal and senescent cell lines, anchorage dependent and independent growth, media types and their preparation, differentiation, selection, hybridization, cloning, and chromosomal characterization of cell lines. Prerequisites: Biology 109 and either Biology 118 or 137; prior experience with aseptic techniques.

Mr. Lyerla

Offered periodically

228 MOLECULAR GENETICS/Lecture, Seminar

Explores recent discoveries in the molecular genetics of prokaryotes and eukaryotes, with emphasis on new findings from recombinant DNA technology and DNA sequencing. Topics include protein synthesis, RNA transcription, gene regulation,

repetitive DNA, gene cloning, split genes, gene families, transposable elements, oncogenes, and antibody gene rearrangement. Intended primarily for seniors and graduate students. Prerequisites: Biology 228 or 272, or permission of instructor. Ms. Comer, Mr. Thurlow Offered every other year

231 RECOMBINANT DNA/Lecture, Laboratory

An introduction to gene cloning techniques. Students clone *Escherichia coli* DNA in a plasmid vector; specific experiments include DNA purification, restriction enzyme digestion, agarose gel electrophoresis, DNA ligation, bacterial transformation, genetic characterization of recombinants, restriction mapping, and DNA sequencing. Two laboratory periods per week. Prerequisites: Biology 118 and Biology 109 or 271.

Ms. Comer

Offered every other year

232 TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH/Lecture, Discussion

Theme and content vary. Offered for graduate students and for undergraduates who have completed a course in microbiology and one or more years of college-level chemistry. Prerequisites: Biology 109, Chemistry 102, and permission of instructor.

Mr. Reynolds

Offered periodically

235 ENVIRONMENTAL HEALTH/Lecture, Discussion

The course deals with principles and practices involved in the evaluation and control of environmental hazards: Topics covered include epidemiology, environmental toxicology, risk assessment, infectious agents, water quality standards, waste treatment practices, and occupational safety. Prerequisites: Biology 109 and Chemistry 102, or permission of instructor.

Mr. Reynolds

Offered every year

238 ISSUES IN PUBLIC HEALTH/Seminar

Discussion of selected readings illustrating approaches and problems associated with the resolution of policy questions in public health. Offered for graduate students and for undergraduates who have completed the area requirements of the biology major. Theme and content vary. Prerequisite: permission of instructor.

Mr. Reynolds

Offered periodically

240 PHYSIOLOGY/Lecture, Laboratory

An introduction to the principles underlying physiological functions common to all living animals. Covers the subcellular, cellular, and organ levels of organization and places a primary emphasis on the integrative processes whereby all of the diverse organs and systems are oriented to the performance of the complete organism. Prerequisites: Biology 137 or 271, and Chemistry 131.

Ms. Kennedy

Offered every year

241 RISK ASSESSMENT IN ENVIRONMENTAL TOXICOLOGY/Lecture

Focus is on the assessment of hazardous properties of toxic chemicals in the environment and development of public health policy. The first part covers the principles of absorption, distribution, excretion, and toxic action of chemicals on humans; animal testing; and human epidemiology. The second part covers assessment of public health risks on the basis of animal and human test results, development of standards for air and water contaminants, and uncertainty in regulating hazardous chemicals. Prerequisites: Biology 101, 102, and permission of instructor.

Ms. Brown

Offered every year

247 NEUROPHYSIOLOGY/Seminar

Discussion of selected readings from classical and current research papers and books on principles and mechanisms of neuronal function. Emphasis is on understanding and critically evaluating research that has been done, understanding the significance of the work in a particular reading to the field as a whole, and recognizing appropriate directions for future research in each problem area. Prerequisites: Biology 161 or 240.

Ms. Kennedy

Offered every other year

260 DIRECTED RESEARCH/Laboratory

An advanced independent study for undergraduates of an approved topic under the direction of a departmental member. Prerequisite: permission of instructor.

Staff

Offered every year

261 DIRECTED READINGS/Discussion

Advanced readings on an approved topic under the direction of a departmental member. Prerequisite: permission of instructor.

Staff

Offered every year

262 HONORS IN BIOLOGY

Readings and research for students in the honors program. Credit/no record only.

Staff

Offered every year

271 BIOCHEMISTRY I/Lecture, Laboratory

272 BIOCHEMISTRY II/Lecture

This two-semester course provides a comprehensive and up-to-date survey of the field of biochemistry. The first semester covers cell metabolism and protein structure and function; the second semester deals with nucleic acid and protein metabolism and other topics. A laboratory component for the first semester acquaints students with methods and instrumentation used in biochemical research. Prerequisites: Biology 101, 102, and Chemistry 132.

Mr. Brink, Ms. Comer

Mr. Nelson, Mr. Thurlow

Offered every year

273 NEUROCHEMISTRY/Lecture

Metabolic aspects of brain amines and biopolymers are considered in relation to neural function. Effects of drugs on memory processes, pain, and emotion are discussed in terms of biochemical mechanisms. Prerequisites: Biology 101 and 102, and Chemistry 132 or permission of instructor.

Mr. Brink

Offered every other year

277 BIOCHEMISTRY OF DISEASE/Lecture, Discussion

The course considers biochemical systems that are perturbed in metabolic regulatory processes as in cardiovascular disease, hormonal imbalance (diabetes), and genetic defects (Tay-Sachs disease). The effects of environmental influences represented by drug and nutrient components are also addressed. Prerequisites: Biology 101, 102, and Chemistry 132 or permission of instructor.

Mr. Brink

Offered every other year

280 BIostatistics AND COMPUTER APPLICATIONS/Lecture

Provides a background in the basic methods of data analysis for biologists, applications of mathematics to the description of biological phenomena, and the generation of testable hypotheses from models of biological processes. Prerequisites: one or more biology courses beyond Biology 101 and 102.

Mr. Livdahl.

Offered every year

290 PSYCHOBIOLOGY OF DISEASE/Lecture, Seminar

A review of the literature with respect to theoretical and empirical studies of neurobehavioral factors affecting various physical disorders that have psychophysiological underpinnings. Discussion of relationships among physiological, environmental and cognitive components of behavioral functioning. Emphasis is placed on consideration of recent findings in areas of behavioral medicine and psychobiology. Consideration is given to the relative roles of physiology, emotions and psychophysiological illness. Prerequisite: Biology 161.

Staff

Offered every year

294 FUNCTIONAL NEUROANATOMY/Lecture/Seminar

A systematic exploration of the organization of the brain and spinal cord and their functions. Topics include relationships of cortical and subcortical structures of the brain with the spinal cord and peripheral nerves, and the organization of higher brain circuits which form the anatomical bases of locomotion, vision, audition, as well as higher nervous functions such as emotions, learning, and memory. Clinical examples bridge neuroanatomy with the neurological and neurosurgical disciplines. Prerequisite: Biology 161.

Staff

Offered every year

295 NEUROENDOCRINE MECHANISMS OF BEHAVIOR/Lecture/Seminar

A comprehensive examination of how neuroendocrine systems influence mammalian behavior. Initially, anatomical and physiological bases for interaction of the nervous and endocrine systems and the various classes of chemical signaling and major neuroendocrine pathways are reviewed. Neuroendocrine control of behaviors such as feeding, drinking, reproduction, and learning are then discussed with emphasis on how different classes of neuroendocrine signals individually and interactively influence specific behaviors. Application of new approaches to the study of the neuroendocrinology of behavior are included. Prerequisite: Biology 161.

Staff

Offered every year

300 READINGS AND RESEARCH IN BIOLOGY

Offered for variable credit.

Staff

Offered every year

310 SCIENTIFIC WRITING FOR GRADUATE STUDENTS/Discussion

An introduction to the technique of writing scientific papers. The principal assignment is writing a journal article and a detailed analysis of the steps involved. Included are searching the scientific literature, handling quantitative data relevant to biological systems, and delivering an oral presentation on a scientific paper. Prerequisite: permission of instructor.

Mr. Ahmadjian

Offered every other year

325 TOPICS IN CELL BIOLOGY/Seminar

The fine structure and functions of subcellular organelles and macromolecules are discussed. Evidence for structure-function relationships obtained by a variety of physical and biochemical methods is considered, with particular emphasis on electron microscopic studies. Prerequisite: permission of instructor.

Mr. Curtis

Offered every other year

341 TOPICS IN ENDOCRINOLOGY/Seminar

Discussion focussed on current literature on the chemistry and biological actions of hormones. Integration of studies of fine structure and biochemistry of endocrine glands and their target tissues is emphasized. Prerequisite: permission of instructor.

Mr. Curtis

Offered every other year

352 GRADUATE SEMINAR IN MYCOLOGY

A detailed, but broad, treatment of fungi with discussion of the major groups of fungi. Topics covered include classification, genetics, nutrition, biochemistry, molecular biology, secondary products, symbiosis and ecology of fungi. Prerequisite: permission of instructor.

Mr. Ahmadjian, Mr. Paracer

Offered periodically

360 MASTER'S THESIS

Offered for variable credit.

Staff

Offered every year

390 DOCTORAL DISSERTATION

Offered for variable credit.

Staff

Offered every year

Business/Management

See Department of Management

Chemistry

DEPARTMENT FACULTY

Karen L. Erickson, Ph.D., *acting chair*: organic, natural products

Daeg S. Brenner, Ph.D.: nuclear

Frederick T. Greenaway, Ph.D.: bioinorganic, physical

Alan A. Jones, Ph.D.: polymer, physical

Stuart L. Licht, Ph.D.: physical

Donald J. Nelson, Ph.D.: biochemistry, bioinorganic

David L. Thurlow, Ph.D.: molecular biology

Edward N. Trachtenberg, Ph.D.: organic

Mark M. Turnbull, Ph.D.: organic, organometallic

Wen-Yang Wen, Ph.D.: physical, gas-polymer interactions

PART-TIME FACULTY

Paul T. Inglefield, Ph.D.

AFFILIATE FACULTY

Mauri A. Ditzler, Ph.D.

David Kupfer, Ph.D.

Samuel C. Wadsworth, Ph.D.

George E. Wright, Ph.D.

ADJUNCT FACULTY

John J. Brink, Ph.D.

M. Margaret Comer, Ph.D.

Christopher P. Landee, Ph.D.

EMERITUS

Harry C. Allen Jr., Ph.D.: inorganic, physical

UNDERGRADUATE PROGRAM

The Chemistry Department offers an undergraduate program with the following

goals in mind:

- 1) to provide a variety of course offerings that are consistent with the accreditation requirements of the American Chemical Society;
- 2) to offer a program that will prepare students for graduate work in chemistry and related fields;
- 3) to provide a strong scientific background for students planning careers in health-related professions;
- 4) to encourage students not majoring in science to obtain an overview of the impact of science on society.

The requirements for the chemistry major are two courses in calculus (Math 120 and 121, or 124 and 125), two courses in physics (Physics 110, and 111 or preferably 112), and eleven courses in chemistry and related fields. These courses must include:

Course	Number
<i>Introductory Chemistry I</i>	101
<i>Introductory Chemistry II</i>	102
<i>Organic Chemistry I</i>	131
<i>Organic Chemistry II</i>	132
<i>Environmental Chemistry</i>	142
or <i>Bioanalytical Chemistry</i>	144
<i>Instrumental Analysis</i>	146
<i>Inorganic Chemistry</i>	150
<i>Physical Chemistry I</i>	160
<i>Physical Chemistry II</i>	162
or <i>Biophysical Chemistry</i>	164

The remaining two-course requirement is normally satisfied by advanced chemistry courses, one of which may be Chemistry 299.5, *Special Projects*, or Chemistry 299.8, *Honors*. On rare occasion, with permission from the department, the student may substitute an advanced-level course in biochemistry, computer science, mathematics, physics, or biology. In addition, at least six courses in a major's program must be taken from courses outside the fields of biology; biochemistry; computer science; chemistry; geology; mathematics; physics; environment, technology and society; and environmental affairs.

Students planning graduate study in chemistry are strongly urged to take Physics 112 rather than Physics 111. In addition to the stated requirements, it is recommended that students take Chemistry 200, 231, and/or advanced mathematics, physics, and biochemistry courses, depending on the area of interest. Computer courses are also recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 299.8) or in a special projects course (Chemistry 299.5) and may do so after completing Chemistry 132.

A student may elect as his/her first course in chemistry: Chemistry 10, 90, 101, 102, or 131. Science majors normally begin with Chemistry 101. The decision to start with Chemistry 102 or 131 (accelerating options) must be made in consultation with the department chair and may require taking a placement examination offered at the beginning of the academic year.

Students who fulfill the normal requirements will have their degree accredited by the American Chemical Society.

The department publishes an undergraduate handbook, *Chemistry at Clark*, which provides additional information. Copies are available at the departmental office.

HONORS PROGRAM

An honors degree program is offered for highly qualified majors. Students who want to enter this program must make a written application to the department

chair prior to the beginning of their senior year. Participants are required to engage in an independent research project, participate in the departmental seminar program, and pass a set of comprehensive examinations. Further information about the program can be obtained from the department chair or the undergraduate handbook.

GRADUATE PROGRAM

The department offers programs leading to the degrees of master of arts and doctor of philosophy with specialization in various fields of chemistry. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal course work requirements. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal course work, all students must pass qualifying examinations and submit and defend a research thesis. Ph.D. candidates must pass preliminary examinations and meet the department language requirement as well. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chair.

COURSES

10 TOPICS IN CONTEMPORARY CHEMISTRY/Lecture

This relatively nonmathematical course is designed for students majoring in social science or the humanities and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half the course is concerned with the development of modern chemical concepts; the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. In-class and final exams.

Staff

Offered every year

90 HISTORY OF SCIENCE/Lecture

Traces the development of scientific thought, concepts, and methods from the Classical world (Egyptian, Greek, Roman), through the Middle Ages and the European Renaissance to the modern world. Historical milestones leading to the development of the "scientific method" are discussed in detail. The course concludes with an examination of the impact of chemical technology on modern society. In-class and final exams.

Mr. Nelson

Offered every year

101 INTRODUCTORY CHEMISTRY I/Lecture, Laboratory

Designed to meet the needs of science majors and the premed program as well as those seeking a rigorous introduction to chemistry as part of their liberal arts education. Introduces fundamental chemical concepts and applies them to a discussion of structure, bonding, and reactivity of molecules. A knowledge of high school algebra is necessary; high school chemistry and physics, although helpful, are not required. The laboratory teaches techniques of chemical experimentation and methods of chemical analysis. In-class and final exams, laboratory reports, and quizzes.

Staff

Offered every semester

102 INTRODUCTORY CHEMISTRY II/Lecture, Laboratory

Continues Chemistry 101 with a discussion of thermodynamics, equilibrium theory, kinetics, electrochemistry, and the application of such theories to studies of structure and reactivity of molecules. The laboratory studies experimental techniques related to the lecture material. Prerequisite: Chemistry 101 or advanced placement. In-class and final exams, laboratory reports, and quizzes.

Staff
Offered every semester

131 ORGANIC CHEMISTRY I/Lecture, Laboratory

Discusses the chemistry of carbon and its compounds. The structures and reactions of related classes of organic molecules are systematically studied with emphasis on reaction mechanisms and structural factors that affect reactivity. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of these classes of compounds. Prerequisite: Chemistry 102 or advanced placement. In-class and final exams, laboratory reports.

Staff
Offered every semester

132 ORGANIC CHEMISTRY II/Lecture, Laboratory

Continues Chemistry 131 by studying more complex molecules and reaction mechanisms. Prerequisite: Chemistry 131. In-class and final exams, laboratory reports.

Staff
Offered every semester

142 ENVIRONMENTAL CHEMISTRY/Lecture, Laboratory

Focuses on chemistry related to environmental problems, with emphasis on aquatic chemistry and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 102. In-class and final exams, laboratory reports.

Mr. Greenaway
Offered every year

144 BIOANALYTICAL CHEMISTRY/Lecture, Laboratory

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics include chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 132. In-class and final exams, laboratory reports.

Mr. Nelson
Offered every other year

146 INSTRUMENTAL ANALYSIS/Lecture, Laboratory

Concentrates on instrumental techniques of analytical chemistry from both theoretical and practical points of view. Topics include electrochemistry, various types of spectroscopic analysis, chromatography, and electrophoresis. In the laboratory, these techniques are used in the analysis of chemical samples. Prerequisite: Chemistry 142 or 144. In-class and final exams, laboratory reports.

Staff
Offered every year

50 INORGANIC CHEMISTRY/Lecture, Laboratory

Deals with theories of structure and bonding and their utility in explaining the chemistry of inorganic substances. Topics include molecular orbital, valence bond, and crystal field theories of bonding and examples of the use of these theories in explaining the structures and reactivities of inorganic molecules; acid-base theory;

spectroscopic methods; and kinetics. Emphasis is placed on the interpretation of structure and reactivity in terms of basic molecular and atomic parameters. Prerequisite: Chemistry 142 or 144. Prerequisite or corequisite: Chemistry 132. In-class and final exams, laboratory reports.

Mr. Greenaway

Offered every year

160 PHYSICAL CHEMISTRY I/Lecture, Laboratory

Covers the principles of physical chemistry as applied to gases, liquids, solids, and solutions. Much of the course is an introduction to the topic of chemical thermodynamics. The laboratory includes experiments in physical chemistry, the development of techniques of measurement, and technical report writing. Prerequisites: Mathematics 120 and Chemistry 102. Prerequisite or corequisite: Chemistry 132 and either Physics 112 or a strong high school background in physics. In-class and final exams, laboratory reports.

Mr. Wen

Offered every year

162 PHYSICAL CHEMISTRY II/Lecture, Laboratory

The topics covered in this continued discussion of physical chemistry are solutions of the Schrodinger equation for simple systems, atomic and molecular spectroscopy, magnetic resonance, solid state and X-ray diffraction, statistical thermodynamics, and chemical kinetics. In-class and final exams, laboratory reports. Prerequisite: Chemistry 160.

Mr. Wen

Offered every year

164 BIOPHYSICAL CHEMISTRY/Lecture, Laboratory

Refer to course description under Biochemistry 164.

Mr. Nelson

Offered every other year

200 PHYSICAL CHEMISTRY III/Lecture

Essentially an introduction to quantum mechanics. Covers elementary quantum-mechanical treatments of the structures of atoms and molecules. Prerequisite: Chemistry 162 or 164.

Staff

Offered every other year

210 PHYSICAL CHEMISTRY IV/Lecture

Deals with the application of group theory to problems of chemical interest such as molecular vibrations, hybrid orbitals, and molecular orbital theory. Prerequisite: Chemistry 200 or permission of instructor.

Staff

Offered every other year

220 POLYMER SCIENCE/Lecture

The physical chemistry of synthetic polymers is presented including discussion of kinetic mechanisms of polymerization, molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response also are reviewed. Prerequisite: Chemistry 162 or 164.

Mr. Jones

Offered every other year

230 PHYSICAL ORGANIC CHEMISTRY/Lecture

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisite: Chemistry 132, 160, or permission of instructor.

Mr. Trachtenberg

Offered every other year

131 ADVANCED ORGANIC CHEMISTRY/Lecture

Provides a framework for students who wish to pursue an interest in organic chemistry beyond the level covered in Chemistry 131-132 by bridging the gap between material in standard elementary organic texts and the original literature. Advanced topics selected from structure, synthesis, and reaction mechanisms may include stereochemistry and asymmetric synthesis; ionic, free radical, carbenoid, and concerted reaction mechanisms; structure determination by modern spectroscopic and degradative methods. Prerequisite: Chemistry 132.

Staff

Offered every year/ Not offered 1988-89

133 ORGANIC CHEMISTRY OF BIOMOLECULES/Lecture

Emphasizes the synthesis, proof of structures, reactions, and reaction mechanisms of important classes of molecules playing significant biological roles. Topics include the carbohydrates, fats, proteins, and cyclic ureides, including the pyrimidines and purines of importance in drugs and nucleic acids. A selection of other molecules from the steroids, alkaloids, and terpenoids also are discussed briefly. Prerequisite: Chemistry 132.

Dr. Trachtenberg

Offered every other year

135 NATURAL PRODUCTS/Lecture, Optional Laboratory

The structure, synthesis, biosynthesis, and chemistry of selected secondary metabolites including steroids, terpenoids, alkaloids, and actogenins of both terrestrial and marine origin are discussed. Biogenetic theory is used extensively to emphasize the simplicity within the complexity of these natural products. An optional four-hour laboratory per week is also available. Prerequisite: Chemistry 132.

Dr. Erickson

Offered every other year

136 ORGANOMETALLIC CHEMISTRY/Lecture

This course covers material related to compounds containing one or more covalent metal-carbon bonds. The material progresses from the traditional organometallics such as Grignards and cuprates through the transition metal- and main group-complexes. Emphasis is placed on the properties of organometallic compounds and the mechanisms of their formation and subsequent reactions. Because of the recent development of the field, use of the primary literature is stressed. A comparison of traditional organic and inorganic chemistry is developed through this intermediate field. Prerequisites: Chemistry 132 and 150 or permission of instructor. In-class and final exams, library work, in-class presentations.

Dr. Turnbull

Offered every other year

142 NUCLEAR SCIENCE/Lecture, Laboratory

This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, and measurement of radioactive atoms. Prerequisite: permission of instructor.

Dr. Brenner

Offered periodically

150 ADVANCED INORGANIC CHEMISTRY/Lecture

Extends the concepts discussed in Chemistry 150 and places them on a more quantitative theoretical basis. Prerequisites: Chemistry 150 and 162 or permission of instructor.

Dr. Greenaway

Offered periodically

152 ELECTRON PARAMAGNETIC RESONANCE SPECTROSCOPY/Lecture

This course is designed as an introduction to the theory and application of EPR as

a probe of structure and reactivity. Theoretical concepts are discussed in a manner that does not require a knowledge of quantum mechanics, though a basic knowledge of chemistry is required. The course is designed to be suitable also for biology and physics majors. Prerequisite: permission of instructor.

Mr. Greenaway

Offered periodically

271 BIOCHEMISTRY I/Lecture, Laboratory

272 BIOCHEMISTRY II/Lecture

Refer to course descriptions under Biochemistry 271 and 272.

Staff

Offered every year

275 PROTEIN CHEMISTRY/Lecture

Refer to course description under Biochemistry 275.

Mr. Nelson

Offered every other year

276 STRUCTURE AND FUNCTION OF NUCLEIC ACIDS/Lecture

This course discusses principles of nucleic acid structure including: types of helices, primary structure, secondary structure, and supercoiling. In the second half of the course, students discuss papers relating the principles of structure to a particular function such as storage, expression of information, catalysis, and evolution of the genetic code. Prerequisite: Chemistry 272.

Mr. Thurlow

Offered every other year

290 SPECTROSCOPY/Lecture

This course deals with the application of the most widely used forms of spectroscopy in the laboratory. Topics include NMR, EPR, IR, UV, visible, Raman, fluorescence, and photoelectron spectroscopy; mass spectrometry; and other techniques, as time permits. Emphasis is placed on giving the student the practical knowledge necessary to operate spectroscopic instrumentation. Prerequisite: Chemistry 162 or 164.

Staff

Offered every other year

299.5 SPECIAL PROJECTS/Laboratory, Discussion

Individual investigations which involve laboratory and/or literature research. Offered for variable credit. Prerequisite: permission of instructor.

Staff

Offered every semester

299.8 HONORS COURSE/Laboratory, Discussion

Primarily for majors seeking departmental honors in chemistry. Involves a laboratory research project and participation in departmental seminars. Offered for variable credit. Prerequisite: permission of department chair.

Staff

Offered every semester

300 RESEARCH/Laboratory

Offered for variable credit.

Staff

Offered every semester

322 THERMODYNAMICS/Lecture

Discusses applications of the three laws of thermodynamics to chemical systems.

Mr. Wen

Offered periodically

323 STATISTICAL MECHANICS/Lecture

Treats statistical mechanics as a bridge between molecular properties and thermodynamic functions, as applied to chemical systems.

Mr. Wen

Offered every other year

13 SYNTHETIC ORGANIC CHEMISTRY/Lecture

The synthesis of organic compounds is discussed. Topics include the scope and limitations of general methods, mechanistic aspects, and stereochemistry. Special emphasis is on the total synthesis of complex molecules from design of methods to execution. Three lectures per week. Prerequisite: Chemistry 132.

Turnbull

Offered periodically

10 SEMINAR

Consists of reports on research and discussions of recently published work.

Guest Lecturers, Staff, Graduate Students

Not offered for credit

11 MAGNETIC RESONANCE THEORY/Lecture

The theory of static and time dependent interactions involved in magnetic resonance spectroscopy is presented. Energy states are defined on the basis of the time dependent Hamiltonian and reflect symmetry. The time dependent terms in the Hamiltonian are used to develop descriptions for line shape collapse and relaxation.

Jones

Offered every other year

19 SPECIAL TOPICS/Seminar

Consists of research and literature reports by graduate students and undergraduates; honors candidates.

Staff

Offered every semester

20 RESEARCH CONFERENCE/Seminar

Consists of informal reports of research work being done in the laboratory. Not offered for credit.

Staff, Graduate Students

Offered every semester

Classics

PARTICIPATING FACULTY

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, Classical mythology, Classical art and archaeology, ancient history

Classics includes courses in the Classical Greek and Latin languages and, in English, the culture and history of the Greek- and Latin-speaking peoples of the ancient Mediterranean. Classics courses are recommended to students as part of their general education and to majors in comparative literature, English, foreign languages and literatures, fine arts, history, music, and philosophy. Although there is no departmental major in classics, students interested in pursuing the study of the ancient Greco-Roman and Judaeo-Christian roots of Western civilization are directed to the interdisciplinary and interdepartmental Program in Ancient Civilization.

COURSES

GREEK

1/102 INTRODUCTORY GREEK/Lecture, Discussion

Beginner's course in the language of Classical Greece. The course covers the grammar and syntax of the ancient Greek language with the goal of enabling

students to read, in the second semester, selections from ancient Greek texts. Course readings, in Greek, may include philosophical works such as Plato's *Apology of Socrates* and *Crito*, or selections from Homer, Herodotus, and the New Testament, depending on class interests. Indivisible course.

Mr. Burke

Offered every year

103/104 INTERMEDIATE GREEK/Lecture, Discussion

A reading course in Classical Greek literature. The course begins with a rapid review of Greek grammar but consists largely of reading and discussion of an appropriate Greek literary text. Course content varies depending on student interest but typically consists of a Greek tragedy such as Sophocles' *Oedipus the King* or selections from Homer's *Iliad* or *Odyssey*. Prerequisite: Greek 101/102 or equivalent background in the language. Available as a directed reading by arrangement with the instructor.

Mr. Burke

Offered every year

B. LATIN

101/102 INTRODUCTORY LATIN/Lecture, Discussion

A beginner's course in the Latin language including, in the first semester, an introduction to the grammar and syntax of Latin with appropriate attention to Latin's role as parent to the Romance languages and source of much of the vocabulary of modern English. The second semester will be primarily devoted to reading selections from suitable Latin texts such as the lyric poetry of Catullus or Horace, the historical works of Julius Caesar or Livy, the Vulgate Bible, or selected medieval texts. Indivisible course.

Staff

Offered every year

103/104 INTERMEDIATE LATIN/Lecture, Discussion

A reading course in the Latin language. The course begins with a rapid review of Latin grammar but consists primarily of reading and discussion of appropriate Latin texts. Course content will vary depending on class interest but could include, for example, selections from Vergil's *Aeneid*, Ovid's *Metamorphoses*, Latin historical works, or selections from the Latin church fathers. Prerequisite: Latin 101/102 or equivalent background in the language. Available as a directed reading by arrangement with the instructor.

Mr. Burke

Offered every year

C. CLASSICS COURSES TAUGHT IN ENGLISH

110 ANCIENT GREEK ART

Refer to course description under Art History 110.

Mr. Townsend

Offered every other year

111 ROMAN ART AND ARCHITECTURE/Lecture, Discussion

A survey of the artistic and architectural accomplishments of ancient Rome and of the many peoples who made up the Roman Empire, beginning with the origins of Rome in Bronze Age central Italy. The course treats Roman relations with Etruscans, Greeks, and other non-Latin-speaking peoples as these interactions manifest themselves in Roman art and architecture. The course concludes with an examination of the effect of Judaeo-Christian values on the formerly pagan Empire, the appearance of a Christian Roman government, and the development of distinctively Christian forms of Roman art and architecture. One mid-term, one term paper, final examination.

Mr. Burke

Offered every other year

15 THE TEMPLE BUILDERS: ARCHITECTURE IN ANCIENT GREECE

Refer to course description under Art History 115

Mr. Townsend

Offered every other year

21 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHEOLOGY/ Lecture, Discussion

A general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the classical Greek city-states, the conquests of Alexander, and the emergence of international urban culture in the Mediterranean world. Readings in the works of ancient authors are chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archeology, are illustrated by slides. One mid-term, one term paper, final examination.

Mr. Burke

Offered every other year

23 THE MIDRASHIC TRADITION/Lecture, Discussion

An English language study of Midrashic literature, the primary Jewish literary expression after the Bible. Written down mainly during the Roman period, the texts comprise independent legends about supernatural beings, writings about biblical characters (filling in gaps in the biblical stories), traditions about the lives of the ancient rabbis, and wide-ranging statements about worldly wisdom, ethical values, and political reality. Sources are read with an eye toward what they reveal about ancient Jewish society, and in the light of recent work in folklore studies. A final unit considers later forms of Midrash, such as Hasidic and contemporary variations.

Mr. Fox

Offered every other year

24 INTRODUCTION TO CLASSICAL MYTHOLOGY/Lecture, Discussion

A study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones), which are particularly useful for gaining an understanding of the function of myth in Greco-Roman antiquity as a vehicle for artistic communication and social commentary. The archeological and anthropological background of the ancient world are sketched in, and the religious and philosophical implications of myth are discussed. The course pays particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis (structural, psychoanalytical, and literary) are touched upon. Many of the lectures are illustrated by slides. One mid-term, one term paper, final examination.

Mr. Burke

Offered every other year

35 CLASSICAL GREEK TRAGEDY/Lecture, Discussion

A survey of tragic drama in Classical Greece. The course treats the distinctive role of drama in ancient Greek society, staging and production of Classical tragedy, and problems of interpreting the texts of plays (in translation) by Aeschylus, Sophocles, and Euripides. The course also pays appropriate attention to mythology as the primary subject of Greek tragedy. One mid-term, one term paper, final examination.

Mr. Burke

Offered every other year

57 THE AGE OF NERO/Lecture, Discussion

A close study of the first century of Roman Imperial society with particular attention to the reign of the emperor Nero (A.D. 54-68). The course emphasizes the historical and social results of the consolidation, during the first century A.D., of totalitarian rule in Rome, a form of government that would dominate the Mediterranean world and most of Europe for four centuries. The age of Nero was also a period of almost

unprecedented creativity in the arts; therefore, students also learn, through the study of Neronian art, architecture, and literature, about the development of a distinctive Imperial idiom in these fields.

Mr. Burke

Offered every other year

174 THEMES IN CLASSICAL GEOGRAPHIC THOUGHT

Refer to course description under Geography 174.

Mr. Koelsch

Offered every other year

250 NARRATIVE IN ANCIENT HISTORICAL WRITING/Seminar, Discussion

A survey of ancient modes of writing and interpreting history. By reading selected works of ancient authors in translation, students examine: narrative and stylistic technique, rhetoric, character portrayal, propaganda and reliability, the manipulation of events for artistic purposes, the effect of the author's intent on his work, and the presence or intrusion of the author's personality. Requires reading, in translation, of selections from Herodotus' *History*, Thucydides' *History of the War between Athens and Sparta*, Plutarch's *Lives*, Josephus' *History of the Jewish War*, and Tacitus' *Annals and Histories*. Reference also is made to Old and New Testament ideas of patterns and purpose in history and to poetic treatments of history by authors such as Homer and Vergil. One mid-term, one term paper, final examination.

Mr. Burke

Offered every other year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD/Lecture, Discussion

A historical and cultural survey of the complex and tumultuous period between the foundation of the Roman Empire and the sixth century A.D., when medieval culture was established in Europe. Two themes dominate the course: (1) the struggle between pagan or classical modes of thought and Judaeo-Christian beliefs and values, and the assimilation of each in the other; (2) the tension within the Christian movement between spiritual and practical concerns as the new religion came to dominate Western culture. The interaction of Greco-Roman, Jewish, and Christian cultures is approached by reading ancient authors in translation, by studying appropriate secondary sources, and by examining representative samples of the visual arts of the period in lectures illustrated by slides. One mid-term, one term paper, final examination.

Mr. Burke

Offered every other year

Communications Studies

PRINCIPAL ADVISERS

Maren E. Stange, Ph.D., English, *program coordinator*: communications, American Studies, cultural studies

Marcia Butzel, Ph.D., Foreign Languages and Literatures: French literature and film, Italian film, feminist film theory

Marvin A. D'Lugo, Ph.D., English: Hispanic literature and film, narrative theory

James P. Elliott, Ph.D., English: American literature, literature and film, contemporary narratives, editing

Philip Rosen, Ph.D., Visual and Performing Arts: screen theory and criticism, screen history

The communications studies program at Clark is offered as a concentration elected in addition to a student's major, rather than as a major in itself. Courses relevant to the communications field are offered in many departments (there is no

partment of communications), and communications studies is coordinated by professor Maren Stange of the English Department.

The communications studies concentration allows students to structure programs which meet their needs and interests. A list of more than fifty courses and sample programs, available from the principal advisers, has been developed for guidance in selecting the program which best supplements the student's major. For example, an English major may wish to concentrate in visual studies as preparation for a career in journalism; a screen studies major interested in becoming a screenwriter may wish to concentrate in writing; or a French major may wish to concentrate in screen studies as background for an interdisciplinary graduate program combining literature, criticism, and film. In addition to introducing students to concepts and skills in several areas of communications, the concentration fosters the development of critical thinking about the general principles of communication.

Students may register for an internship in an agency or organization directly related to the field of communications such as a newspaper, radio station, television station, graphic design firm, advertising agency, theater company, museum, gallery, public relations firm, charitable or educational foundation. In some cases the student may choose an on-campus internship (such as working in the Clark Communications Office, Little Center Gallery, Clark Center for Contemporary Performance; assisting a professor or staff member in writing or teaching; participating in Clark's Teaching Apprentice Program, which is open to students in all major fields).

Students also may undertake a directed research project in addition to or in place of their internship. Such research may consist of a project jointly undertaken by a student and a faculty member, or it may be a project designed and executed by the student with faculty approval and supervision. Students interested in this option should discuss it as soon as possible with a principal adviser or with the program coordinator.

REQUIREMENTS

To concentrate in communications, students must complete the following:
A major in any of the disciplines (English, Foreign Languages & Literatures, and Visual & Performing Arts are the most common).

Two required courses: *Communications*, *Culture and Society*, and an internship or directed research project.

Four additional courses selected in consultation with one of the principal advisers.

REQUIRED COURSES

COMMUNICATIONS, CULTURE AND SOCIETY

More than a survey or introduction, this course focuses on concepts and ideas from several disciplines that contribute to (or criticize) the intellectual foundations of the communications field. Philosophical and humanities-oriented approach, the course may include readings by Barthes, Dewey, Lippman, Sontag, and Sontag. Prerequisite: Enrolled students must have taken or be taking currently at least one other communications concentration course. Permission of the instructor is required.

Stange

Offered every year

9. INTERNSHIP OR DIRECTED RESEARCH PROJECT

For

Offered every year

Comparative Literature

PARTICIPATING FACULTY

Marvin A. D'Lugo, Ph.D. *program director*: Hispanic literature and film, narrative theory

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, classical mythology, classical art and archaeology

Maria I. Acosta Cruz, Ph.D.: Baroque literatures, postmodernist narrative

William Ferguson, Ph.D.: Spanish Golden Age literature, twentieth-century Hispanic literature, Spanish literature

Everett Fox, Ph.D.: Jewish ritual and folklore, Classical Jewish thought

Kenneth Hughes, Ph.D.: nineteenth- and twentieth-century European literature, comparative literature, literary theory

Hartmut Kaiser, Ph.D.: German language and literature, German romanticism, the fairy tale, relations between music and literature

Dorothy Kaufmann, Ph.D.: French feminism, literature and existentialism, French and Francophone cultural studies, European novel

Gale H. Nigrosh, Ph.D.: sociolinguistics, the theory and practice of foreign language teaching, the development of written discourse (on leave)

Walter Schatzberg, Ph.D.: age of Goethe, German expressionism in literature and the arts, German cinema, relations of literature and science

Michael K. Spingler, Ph.D.: French theater and film, comparative drama, translation

ADJUNCT FACULTY

Martyn J. Bowden, Ph.D.

John Conron, Ph.D.

Bernard Kaplan, Ph.D.

Philip Rosen, Ph.D.

UNDERGRADUATE PROGRAM

THE MAJOR IN COMPARATIVE LITERATURE: PROGRAM DESCRIPTION

Comparative literature offers the student a program of studies in the formation and development of the Western mind as it is expressed through poetry, prose, drama, film, and related arts. Offered by the Department of Foreign Languages and Literatures, the program is by nature interdisciplinary and has strong ties with several other departments in the University. In addition to the core courses offered by the department in comparative literature and literatures in foreign languages (French, German, Hebrew, Russian, and Spanish), the student is encouraged to take courses in English, humanistic geography, psychology, and visual and performing arts. One of the special aspects of the program is the emphasis on developing in the student a working approach to the text combined with a critical approach. This may take the form of play production, seminars in translation of lyric poetry and drama, and supervised work in the contemporary critical theory (i.e. relations between text and performance, spectator positioning, reader response).

A distinctive feature of the Program in Comparative Literature is the *Comparative Literature Colloquium*. The colloquium serves as the center within which students and faculty of the Comparative Literature Program meet to discuss issues related to the critical and theoretic approaches to literature and related arts. It is primarily a place for the sharing of ideas and perspectives that may originally have

een developed within the context of a particular discipline or research topic. The colloquium frequently invites guests from outside the University, as well as other Clark departments, to make presentations and lead discussions.

PROGRAM REQUIREMENTS

No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with faculty adviser.

COURSES

10 PROBLEMS IN COMPARATIVE LITERATURE/Lecture, Discussion

An introductory course in comparative studies of literature from a problem-oriented perspective. The course revolves around five major issues:

1. The Tragic View
2. The Challenge of Faith
3. Man the Measure
4. The Search for Identity
5. The Aesthetics of Ambiguity

Readings include selections from Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.

Dr. Schatzberg, Mr. D'Lugo

Offered every other year

12 THE FAIRY TALES OF THE BROTHERS GRIMM/Lecture, Discussion

Refer to course description under German 112.

Dr. Kaiser

Offered every other year

15 READING MODERN FICTION/Lecture, Discussion

An introduction to influential and provocative works of modern fiction, with emphasis on the short story and novella. We discuss the distinctive sensibility of modernism and the kinds of fictional language this sensibility has created. The course begins with Dostoyevsky's *Notes from Underground* and concludes with Milan Kundera's *The Unbearable Lightness of Being*.

Ms. Kaufmann

Offered every other year

16 HESSE, KAFKA, MANN/Lecture, Discussion

A study of selected works including Hesse's *Steppenwolf*, Kafka's *The Trial*, and Mann's *Death in Venice*. The focus of the course is on developing interpretations of individual works and contrasting the author's literary techniques and world views.

Dr. Schatzberg

Offered every other year

17 INTRODUCTION TO THE HEBREW BIBLE I: NARRATIVE AND LAW/Lecture, Discussion

Refer to course description under Hebrew 117.

Dr. Fox

Offered every other year

18 INTRODUCTION TO THE HEBREW BIBLE II: PROPHECY AND POETRY/Lecture, Discussion

Refer to course description under Hebrew 118.

Dr. Fox

Offered every other year

120 THE EPIC JOURNEY/Lecture, Discussion

A comparative and cross-cultural examination of the epic as a recurring literary form. Special attention is paid to the various forms and functions of the hero's journey. Epic journeys may or may not have goals that are clear to the hero; they may be wanderings in unknown parts of the physical world, or they may be representative of various types of spiritual striving and trial. Our task is to define and articulate the various types of epic voyage and to relate their differences and similarities to the values of the societies which gave rise to them. Included in the term's reading are selections (in English translation) from Homer's *Odyssey*, Vergil's *Aeneid*, Appollonius's *Argonautica* and Apuleius's *Ass*.

Mr. Burke

Offered every other year

121 SURVEY OF INTERNATIONAL FILM MOVEMENTS/Lecture, Discussion

Refer to course description under Screen Studies 121.

Mr. Rosen, Staff

Offered every other year

123 THE MIDRASHIC TRADITION/Lecture, Discussion

Refer to course description under Hebrew 123.

Mr. Fox

Offered every other year

130 THE MODERN THEME: OUT OF THE PAST/Freshman Seminar

An examination of literary masterpieces which reflect the tension between ideas of the modern and traditional values in art and society. Particular attention is given to the development of the themes of historical consciousness through literature; cultural forces shaping personal identity during different historical periods; the variety of artistic self-consciousness. Readings include representative works by Sophocles, Cervantes, Molière, Flaubert, Borges, Nabokov, Calvino, and Barth.

Mr. D'Lugo

Offered every other year

140 CITIES AND CULTURE: THE ANCIENT CITY

Refer to course description under Geography 140.

Mr. Bowden

Offered every year

147 THE FILMS OF LUIS BUNUEL/Lecture, Discussion

Close examination of Buñuel's major surrealist and realistic works in terms of their aesthetic development as well as their critique of culture. Major topics to be covered include: the aesthetics of Bunuel's surrealist period, assaults on cinematic conventions, his accomodation to commercial filmmaking in Mexico, and critique of Spanish cultural practices. Conducted in English; Spanish major credit available.

Mr. D'Lugo

Offered every other year

148 INTRODUCTION TO CINEMA IN LATIN AMERICA/Lecture, Discussion

Survey of representative film cultures, directors, and works in Latin American, with special emphasis on the developments in Argentina, Brazil, Cuba, and Mexico. Among the issues under consideration are: the politics of representation, cultural nationalism in Latin American cinema, issues of authorship, alternative film practices in Third-World cinema. Conducted in English; Spanish major credit available.

Mr. D'Lugo

Offered every other year

149 THE FILMS OF CARLOS SAURA/Lecture, Discussion

Close examination of the major films of Spain's best-known filmmaker in the context of contemporary Spanish cultural politics. The course explores the integration of the themes of history and national identity in Saura's films during the

franquista dictatorship; the representation of cultural and cinematic censorship in his work; finally, his experiments with cinematic narration in the years following the dictatorship.

Mr. D'Lugo

Offered every other year

150 NEW GERMAN CINEMA/Lecture, Discussion

Refer to course description under German 150.

Mr. Schatzberg

Offered every other year

155 STUDIES IN ITALIAN FILM: NEOREALISM/Lecture, Discussion

Explores the political, cultural, and aesthetic role of neorealist cinema in Italy. The linkage between film, history, and nationality during the years 1942-1951 directs us to broader questions concerning the relations between art and politics in fascist, *Resistenza*, and contemporary Italian culture. In addition to film texts and selections from the controversial critical debate over neorealism in film and cultural history, we consider both precursors and inheritors of Neorealist cinema.

Ms. Butzel

Offered every other year

168 MUSIC IN GERMAN LITERATURE AND THOUGHT/Lecture, Discussion

Refer to course description under German 168.

Mr. Kaiser

Offered every other year

169 PSYCHOLOGY OF LOVE AND HATE IN LIFE AND LITERATURE

Refer to course description under Psychology 256.

Mr. Kaplan

Offered every other year

180 LATIN AMERICAN LITERATURE IN TRANSLATION/Lecture, Discussion

This course examines major works from Latin American literature, including the Spanish-speaking countries and Brazil, with an emphasis on the cultural, political, and social context in which this literature functions. Topics include Boom and Post-Boom literature, the realist novel and reactions against it, women writers, ideas of cultural identity, the role of the author in Latin America, and the Cuban Revolution and its effect on the continent. Conducted in English; major credit in Spanish available.

Ms. Acosta Cruz, Ms. D'Lugo

Offered every other year

181 THE LITERATURE OF MODERN SPAIN/SPAIN IN TRANSLATION

Readings representing the major authors and trends in the literature of Spain in the nineteenth and twentieth centuries. Particular emphasis on the realist novels of Galdos and Clarín in the nineteenth century; the philosophical novels of Unamuno and Pérez de Ayala, poetry and theater of Lorca, and the post-modernist narratives of Goytisolo in the twentieth century.

Mr. D'Lugo

Offered every other year

188 THE CULTURE OF THE WEIMAR REPUBLIC IN LITERATURE, FILM, AND THE ARTS/Lecture, Discussion

Refer to course description under German 188.

Mr. Schatzberg

Offered every other year

191 STUDIES IN COMPARATIVE CULTURE: FRENCH VERSUS AMERICAN TELEVISION/

Through the analysis of both mainstream and avant-garde video programming from France and the U.S., the course is designed to give students experience in understanding and theorizing different modes of cultural representation. The

course uses previously unavailable materials obtained through PICS (Project for International Communications Studies), a consortium of five universities including Clark. Some of the principal questions we ask are: What kinds of critical procedures are useful in analyzing television? What constitutes a television text in different Western nations? How can we understand the relation of television programming to different cultural situations? Reading includes essays on television theory and analysis, and studies of French and American culture.

Ms. Butzel

Offered every other year

193 INTERPRETATIONS OF DREAMS

Refer to course description under Psychology 260.

Mr. Kaplan

Offered every other year

197 THE FAUST THEME IN LITERATURE AND MUSIC

Refer to course description under German 197.

Mr. Kaiser

Offered every other year

205 FEMINIST FILM THEORY AND CRITICISM/

This course explores the emergence of feminist film criticism from the women's movement of the 1970s and its subsequent "coming of age" via such theoretical frameworks as semiotics, psychoanalysis, and Marxism. Emphasis is placed on understanding the role of critical theory as appropriated by feminist analysis of film and culture. Readings include work by Freud, Lacan, Metz, Mulvey, Kuhn, and DeLauretis. Theory is related to an historical range of international practices, including films by Dulac, Arzner, Deren, Hitchcock, Godard, Ackerman, and Rainer.

Ms. Butzel

Offered every other year

210 STUDIES IN POSTMODERNIST FICTION

A comparative approach to the study of postmodernist fiction from the 1940s to the 1980s. A review of postmodernism as a wide-ranging cultural movement is followed by readings and discussions of postmodernist writers who have extended the boundaries of genre, form and interpretation of literature. The works are analyzed in light of classical and modern traditions they transform. Authors include: Julian Barnes, Jorge Luis Borges, Julio Cortazar, Milan Kundera, Stanislaw Lem, Gabriel García Márquez, Hunter S. Thompson, Mario Vargas Llosa, Fay Weldon, Tom Wolfe.

Ms. Acosta Cruz

Offered every other year

215 WOMEN'S WRITING IN CONTEMPORARY FRANCE

This course is a study of major works of French fiction and theory as they question and illuminate each other. We explore these works in the context of the contemporary French feminist controversy between theories of equality and theories of difference, particularly as they relate to notions of *l'écriture féminine*. Readings include Colette, Simone de Beauvoir, Helene Cixous, Marguerite Duras, Luce Irigaray, Monique Wittig, Julia Kristeva. Prerequisite: permission of the instructor.

Ms. Kaufmann

Offered every other year

230 COMIC MIRRORS AND SELF-CONSCIOUS HEROS IN FRENCH THEATER

A study of comic tradition of self-referential theater in France touching on the play-within-the-play, masques, masquerades, as well as the ironic exposures of theatrical conventions and parodies of dominant theatrical styles. Closely examines seventeenth-century classicism through contemporary absurdist and avant-garde theater. Representative playwrights include: Molière, Marivaux, Musset, Feydeau, Anouilh, Sartre, Ionesco, and Genet.

Mr. Spingler

Offered periodically

240 STUDIES IN MODERN NARRATIVE FORM

The course investigates modifications of the traditional novel form in the twentieth century, changes which have enabled the novel to maintain its position as the pre-eminent literary genre. Representative works of the following authors are studied: Joyce, Woolf, Beckett, Thomas Mann, Broch, Gide, Robbe-Grillet, Fowles, Thomas, Doctorow, and García-Márquez.

Mr. Hughes

Offered every other year

250 MEDIEVAL LITERATURE/Seminar

Refer to description under English 250.

Ms. Gertz

Offered every other year

251 SEMINAR IN LITERARY CRITICISM/Seminar

Seeks to develop critical sensibilities by concentrating on three major modes of literary criticism: textual, psychoanalytic, and Marxist. We read and discuss both original sources (Freud, Marx, and others) and a wide range of criticism based on their methods. An attempt is made to demonstrate that a complete critical engagement with a literary work must start from a close examination of the text itself, proceed to a consideration of the interaction between text and the author's life and mind, and from there, to an investigation of the social setting that conditions text, life, and mind. In order to unify discussion and development, the seminar centers around a thorough critical occupation with the works, life, and society of Franz Kafka. Primary material includes his short stories, his novel *The Trial*, *Letter to His Father*, and *Letters to Milena*.

Mr. Hughes

Offered every other year

252 CHAUCER/Seminar

Refer to course description under English 251.

Ms. Gertz

Offered every other year

276 SYMBOLISM IN EVERYDAY LIFE: MYTH, DREAM, AND SYMBOL

Refer to course description under Psychology 276.

Mr. Kaplan

277 THE CREATIVE PROCESS

Refer to course description under Psychology 277.

Mr. Kaplan

280 AMERICAN CULTURE AND SOCIETY, 1820-1860/Discussion

Refer to course description under English 280.

Not offered in 1988-89

281 AMERICA SINCE 1860/Discussion

Refer to course description under English 281.

Not offered in 1988-89

283 AMERICAN LANDSCAPES/Discussion

This course concentrates on the effects of the picturesque aesthetic on the representation of nineteenth-century American spaces—landscapes, domestic spaces, and mindscapes—in literature, painting, architecture, and landscape gardening. The course is sometimes taught as part of a cluster of courses in geography (Professor Johnson) and art (Professor Grad). Limited to twenty students. Permission of instructor required.

Mr. Conron

Offered every year

286 STUDIES IN LANDSCAPE/Seminar

This seminar concentrates on the representation of twentieth-century American spaces—landscapes, cityscapes, interiors and mindscapes—in literature, painting, photography and film. Limited to fifteen students. Prerequisite: English 283, *American Landscapes*.

Mr. Conron

Offered every other year

Computer Science

The computer science major has been designed for the education of computer scientists with a solid background in mathematics and significant work in a related area. Students may concentrate in various areas of computer science.

For more information, refer to the listing for the Department of Mathematics and Computer Science.

Economics

DEPARTMENT FACULTY

Frank Puffer, Ph.D., *chair*: regional economics, African economic development, health economics

John C. Brown, Ph.D.: economic history

James Peter Ferderer, Ph.D.: monetary theory, macroeconomics, finance

Wayne B. Gray, Ph.D.: labor economics, econometrics, microeconomic theory

Robert C. Hsu, Ph.D.: economic development, comparative economic systems, international economics

Michael Klein, Ph.D.: international economics, macroeconomics

Artiat F. Ott, Ph.D.: economic theory, public finance, health economics, macroeconomics

Don M. Shakow, Ph.D.: Marxist economics, resource and energy economics, econometrics

Roger C. Van Tassel, Ph.D.: international trade and finance, public economy

E.C.H. Veendorp, Ph.D.: microeconomic theory

Maurice D. Weinrobe, Ph.D.: monetary economics, economics of housing

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions and to develop habits of systematic thought.

Goals of the Major

The rationale for economics majors can be stated briefly and simply: We believe economics offers a useful insight into a better understanding of fundamental human behavior in the decision-making process and in a great variety of national issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, in which the contribution of formal economic analysis does not play a necessary role. There are obviously some advantages in an economics major besides a more broadly accepted educational value. It is a good preparation for law, business, and a number of other professional and nonprofessional careers. However, the emphasis of our program is the educational one. The major in economics is devised to help the student think and develop.

Economics 10, *Issues and Perspectives*, is prerequisite for all 100-level courses and for Economics 11, *Principles of Economics*. Economics 11 is prerequisite for 100-level courses in the department. Individual courses may carry additional prerequisites. All majors in economics must take Economics 10; Economics 11; Economics 160, *Introduction to Statistical Analysis*; and Economics 205.1 and 205.2, *Microeconomic/Macroeconomic Theory*. A 2.0 grade point average in these four courses is required for credit towards the major. Students are expected to take no less than twelve courses and no more than nineteen courses in economics. Of these courses, at least ten must be offered in the Economics Department, and two may be "related" courses. Special projects or internships do not count toward the requirements of ten economics courses. Two courses at the 200-level must be taken in addition to *Microeconomic Theory* (205.1) and *Macroeconomic Theory* (205.2). Students are advised to complete 205.1 and 205.2 by their junior year and to take no more than five economics courses in any year. Some courses may be offered only in alternate years.

Senior majors with strong records may be accepted by the department as candidates for departmental honors. For students to receive departmental honors, they must successfully complete an honors course or project. All majors may have a department adviser to assist in developing a program of study. Students planning on pursuing graduate work in economics are strongly advised to take mathematical economics and at least one calculus course. Students should refer to the *Undergraduate Economics Handbook* or to an undergraduate adviser for further information regarding requirements, course prerequisites, appropriate sequence of courses, and honors.

GRADUATE PROGRAM

The University offers a program of graduate study and research leading to the doctor of philosophy in economics. Graduate students may elect to take a limited amount of work in related courses offered by other departments.

Scholarships and fellowships are available for well-prepared students. These appointments exempt their holders from tuition fees, and some carry stipends in varying amounts. Several teaching assistantships are also awarded, which enable graduate students to gain experience in undergraduate instruction. These cover remission of tuition and a cash payment, currently up to \$6,600 for part-time work.

An Earhart Foundation Scholarship is awarded every year to an outstanding candidate selected by the Earhart faculty sponsor. The award covers a full tuition plus a cash stipend. No teaching responsibility is attached to the award.

A number of health fellow appointments are made each year. This award covers full tuition plus a cash stipend. Health fellows are expected to engage in research in the health economics field.

Two full academic years of graduate work, or its equivalent in part-time work, are necessary for admission to Ph.D. candidacy. One of these years must be spent in residence at Clark University. "In residence" is broadly defined as work done at Clark University. All candidates for the Ph.D. in economics are required to demonstrate proficiency in economic theory, econometrics, and mathematical economics and to complete three selected fields.

Econometrics and mathematical economics are satisfied by passing designated courses offered in the department or, in the case of prior preparation, by passing test given by the department.

The economics theory requirement includes micro-theory, macro-theory, and the history of doctrine. The student meets the economic theory requirement by satisfactory completion of the theory courses, Economics 301.1, 301.2, 302.1, and 302.2, and by passing a six-hour preliminary examination.

Upon completion of economic theory and two of the required special fields, the

student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: monetary economics, public finance, industrial organization, international economics, comparative economic systems, advanced theory, regional economics, economic development, labor economics, or one field selected from related subjects. Not all graduate field courses are offered each year. At least two field courses are offered annually. Typically, two fields are taken during the second year, and the remaining field requirement is completed, along with beginning the dissertation, during the third year.

Soon after having completed the field requirements, each student is expected to develop a written prospectus of a dissertation. The student then makes a presentation at an informal conference with all graduate students and faculty invited to attend. After the presentation, the primary adviser, in consultation with the chairman, appoints the dissertation committee if the topic is judged feasible.

Upon completion of the dissertation in a form acceptable to the committee, the candidate makes a copy of the dissertation available to the department, the faculty, and graduate students. After a period of approximately two weeks, to permit sufficient time for reading of the dissertation, the candidate presents the dissertation at a seminar open to all faculty and graduate students in the department. Final approval of the dissertation is granted by the committee after consideration of any suggested changes or challenges arising from the seminar. If five years have elapsed from the admission to candidacy, the student must retake the preliminary examination. A dissertation cannot be defended if more than five years have elapsed since the passage of the preliminary examination.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the department instead of a dissertation.

Some teaching and research experience at Clark, or other such teaching and research as the department may regard as equivalent, is prerequisite to the doctor's degree.

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of a two-year residency and preliminary exam. In the case of students who do not continue toward the Ph.D., the M.A. may be awarded upon satisfactory completion of twelve required courses or one-year residency, an M.A. thesis and an oral exam.

A student should discuss program plans with the graduate student adviser on or before registration day and secure approval of the course program.

INSTITUTE FOR ECONOMIC STUDIES

The Institute for Economic Studies, funded with an initial grant from the John M. Olin Foundation, began its operation in January 1980. The institute's main objectives are to:

1. research significant economic issues and propose policy options to deal with them;
2. disseminate the results of the research—particularly its policy recommendations—to a broad audience.

The institute provides a framework within which new curricula and teaching methods may be developed. In addition, a Scholars in Residence Program was instituted in 1984 to stimulate the exchange of ideas and dialogue between guest scholars and members of the institute and economics faculty.

The institute director is Professor Attiat F. Ott.

CENTER FOR THE STUDY OF HEALTH ECONOMICS

Clark University's Center for the Study of Health Economics was officially inaugurated in August 1987 as an integral part of the Economics Department and the Institute for Economic Studies. The primary goal of the center is to conduct research

on health economics issues of concern to policymakers, providers, and consumers of health care services. To encourage doctoral students in economics to pursue teaching and research in the field, the center will award two fellowships a year to outstanding Ph.D. candidates.

COURSES

10 ISSUES AND PERSPECTIVES/Lecture, Discussion

The student is introduced to the vital contribution economics can make to systematic thought and understanding by analysis of important current policy issues. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues, the course proceeds to show how development and use of some basic economic concepts can aid materially in the analysis. Open to freshmen. Multiple sections.

Staff Offered every semester

11 PRINCIPLES OF ECONOMICS/Lecture, Discussion

Introduction to economic analysis. Develops a set of economic concepts utilized in the 200-level courses offered in the department. Elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to freshmen. Prerequisite: Economics 10.

Staff Offered every semester

88 DIRECTED READINGS

Offered for variable credit.
Staff Offered every year

89 SPECIAL PROJECTS

Offered for variable credit.
Staff Offered every year

108 INTERNATIONAL FINANCIAL DEVELOPMENTS/Lecture, Discussion

Introduction to the basic principles of international economics. The course examines the development of the international monetary system and current problems. Students planning to take Economics 207 or 208 should not take 108. Prerequisite: Economics 11.
Mr. Klein, Mr. Van Tassel Offered every year

109 SOCIALIST THOUGHT/Lecture

An exposition of socialist economic theory as a coherent body of knowledge uniquely suited to the analysis of major socioeconomic issues.
Mr. Shakow Offered periodically

113 MONETARY ECONOMICS: THEORY AND POLICY/Lecture, Discussion

The theory of money and its role in the modern economy are examined as are determinants of the supply of money and analysis of the role of monetary policy in stabilization policy. Commercial banks and nonbank financial intermediaries are studied.
Mr. Weinrobe Offered every year

125 HEALTH ECONOMICS/Lecture, Discussion

This course examines the economic processes and activities of health care systems and institutions. Major issues including competition, role of governments, and

insurance are among the topics that are investigated to assist students to understand how economic considerations affect the delivery of care.

Staff

Offered periodically

126 PUBLIC POLICY TOWARD BUSINESS/Lecture, Discussion

Examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced are the development of antimonopoly regulation, consumer protection, and public utilities. Business performance and government regulations are related to criteria from economic theory.

Mr. Veendorp

Offered every other year

128 ECONOMIC DEVELOPMENT/Lecture, Discussion

See course description under Economics 228.

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT/Lecture

A review of political economic problems associated with such natural resources as agricultural land, energy goods, and minerals—as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market-oriented economy, the potential role of international cartels in resource allocation, and the assessment of nuclear generation from an economic standpoint.

Mr. Shakow

Offered periodically

160 INTRODUCTION TO STATISTICAL ANALYSIS/Lecture, Discussion

Examines basic concepts and techniques of statistical method in economic analysis: descriptive statistics, probability theory, sampling distribution, standardized normal distribution and other related distributions, simple and multiple regression, simple forecasting, and statistical decision making.

Mr. Puffer, Mr. Shakow

Offered every semester

171 FUNDAMENTAL MATH FOR ECONOMICS/Lecture, Discussion

This course introduces the mathematical tools used in economic analysis. After completing this course, the student should feel comfortable with the mathematical techniques likely to be encountered in an undergraduate economics program. Applications are drawn from a variety of fields within economics, but with particular emphasis on microeconomics. Prerequisite: Economics 11.

Staff

Offered periodically

176 COMPARATIVE ECONOMIC SYSTEMS/Lecture

Surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Selective aspects of mixed economies, market socialist economies, and centrally planned economies are examined. Topics include the permanent employment system in Japan, industrial democracy in Sweden, indicative planning in France, workers' self-management in Yugoslavia, economic reforms in Hungary, and resource allocation in the USSR.

Mr. Hsu

Offered every other year

177 CHINESE AND JAPANESE ECONOMIES/Lecture, Discussion

A comprehensive survey of the Chinese and Japanese economies—their development, institutions, and policies. Topics include historical background, agricultural development, industrial organization and development, fiscal and monetary policies, employment and labor, Sino-Japanese relations, and relations with the U.S.

Mr. Hsu

Offered every other year

205.1 MICROECONOMIC THEORY/Lecture, Discussion

Describes and analyzes how a market-oriented economy functions in answering the five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors.

Staff

Offered every semester

205.2 MACROECONOMIC THEORY/Lecture, Discussion

Focuses on the forces that affect the overall performance of the economy. A study of the determinants of economic activity (such as consumption, investment, government purchases, and exports) and measures of economic performance such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). Also deals with specific, current economic problems facing the U.S. and discusses public policies instituted to deal with them and the repercussions of some of these policies on world economies.

Staff

Offered every semester

207 INTERNATIONAL ECONOMICS/Lecture, Discussion

Applies and develops concepts of economic theory to such topics as: determinants of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade. Prerequisite: Economics 205.1.

Mr. Van Tassel, Mr. Klein

Offered every year

208 INTERNATIONAL MONETARY THEORY/Lecture, Discussion

This course studies the impact of international trade and investment on macroeconomic policy and problems of the international monetary system. Prerequisite: Economics 205.2 or 207.

Mr. Van Tassel, Mr. Klein

Offered every other year

209 MARXIST ECONOMIC THEORY/Lecture

An introduction to Marxist economic theory. A comparison is made between the development of Marxist and neoclassical economic analysis. Prerequisite: permission of instructor.

Mr. Shakow

Offered every other year

215 PUBLIC EXPENDITURES/Lecture, Workshop

Examines issues and priorities related to the size and composition of the federal budget and federal programs. Evaluation of federal budget expenditures and program levels according to criteria of cost-benefit analysis and cost effectiveness are carried out. Issues relating to private-public use of resources and how public policy affects these uses are also examined.

Ms. Ott

Offered every other year

216 TAX SYSTEMS AND POLICIES/Lecture, Workshop

Analyzes the federal tax system and U.S. tax policies. Explains emerging issues in federal taxation including tax equity, the effect on income distribution, the relative tax burden of the rich and the poor, and alternative tax systems as well as reform

proposals to restructure the U.S. tax system. Tax incentives as a goal for economic growth are also discussed.

Ms. Ott

Offered every other year

222 LABOR/Discussion

Applies the concepts of labor supply and labor demand in a basic model of labor markets. The model is used to analyze the results of the labor market: wages, employment, and unemployment. The analysis is modified to allow for market imperfections and nonmarket forces, including trade unions and the government. Further topics are discussed, including wage discrimination and income inequality. Prerequisite: Economics 205.1 or permission of instructor.

Mr. Gray

Offered every year

223 CONTEMPORARY POLITICAL ECONOMICS/Seminar

Examines the basis of intergroup differences in attitudes on questions of economic policy. Emphasizes interaction of values, facts, and analysis in opinion formation.

Mr. Van Tassel

Offered periodically

224 ECONOMIC THOUGHT AND MODERN CIVILIZATION/Lecture

Broadly interdisciplinary. Emphasizes the relationship between economics and related areas, such as philosophy, ethics, political science, sociology, mathematics, and statistics. From the perspective of economic thought, the course traces developments in economic analysis, showing how economic analysis has affected and been affected by contact with other disciplines. The course considers how modern economic thought has come to diverge in essential aspects from the ideas of social philosophers like Adam Smith and Karl Marx and emphasizes what scientific economic analysis does and does not enable us to understand about modern social problems and issues.

Mr. Shakow

Offered every other year

228 ECONOMIC DEVELOPMENT/Lecture, Discussion

Examines the major theories of economic development, the major problems confronting less developed countries, and the policies and strategies appropriate for economic development. Topics include agricultural development, income distribution, industrialization strategies, foreign aid and investment, population, labor, and employment. Offered in alternate years with 128.

Mr. Hsu

Offered every other year

235 ECONOMICS OF HOUSING/Lecture

An examination of the nature of housing, including an investigation of supply and demand in the housing market, the relationship between housing and the aggregate economy, the role of housing finance, and the role of the government in the housing market. Prerequisite: Economics 113.

Mr. Weinrobe

Offered periodically

242 EUROPEAN ECONOMIC HISTORY/Lecture, Discussion

This course applies the tools of economic analysis to help understand the major stages of European economic development, from the feudal economy to the European Economic Community. Primary emphasis is on the industrialization of Great Britain, Germany, France, and Russia and the postwar restructuring of the European economy.

Mr. Brown

Offered every year

243 AMERICAN ECONOMIC HISTORY/Lecture, Discussion

This course offers a comprehensive survey of the development of the United States economy from a colonial backwater to a leading industrial power. It emphasizes

use of economic reasoning to understand historical controversies like the struggle over slavery, economic imperialism, and causes of the Great Depression.

Mr. Brown

Offered every year

250 ECONOMICS OF SPORT/Lecture, Discussion

This course applies economic analysis to the sports industry. While the primary focus is on professional team sports, individual and "amateur" sports are covered as well. Labor relations, antitrust law, public subsidization of sports facilities, discrimination, and sports broadcasting are among the topics that are covered from an economics perspective.

Mr. Puffer

Offered periodically

255 PERSONAL INCOME DISTRIBUTION: THEORIES AND POLICIES/Lecture, Workshop

Surveys theories of income distribution and sources of income inequality in the U.S. Also discussed are issues dealing with income redistribution policies in the U.S. and foreign countries.

Ms. Ott

Offered periodically

257 RESOURCE ECONOMICS/Lecture, Discussion

This course examines some of the issues associated with the economics of natural resources. Topics discussed are chosen from the following: the theory and analysis of renewable and nonrenewable resources, resource cartels, resource scarcity and the economy, and environmental economics. Topics are discussed at both theoretical and empirical levels. Proper policies are discussed to encourage resource conservation, the problems of common property resources, and the importance of resource scarcity to the economy. Prerequisite: Economics 205.1.

Staff

Offered periodically

271 INTRODUCTION TO MATHEMATICAL ECONOMICS/Lecture, Discussion

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: permission of instructor. Offered for variable credit.

Mr. Veendorp

Offered every year

273 FORECASTING/Lecture, Discussion

This course investigates a number of forecasting techniques commonly used in economic analysis. Among the techniques covered are time series analysis, econometric models, simulation models, and expectations surveys. Prerequisite: Economics 160 or equivalent.

Mr. Puffer

Offered periodically

277 REGIONAL ECONOMICS/Lecture

Examines theoretical and practical aspects of economic development, cyclical changes, and trade between regions of the United States. Location theory, growth trends, wage and income differentials, structural unemployment, interregional input/output tables, and inequalities in income distribution are considered.

Mr. Puffer

Offered periodically

282 HONORS

Students work on an individual basis with a faculty member on an intensive piece of research culminating in an honors thesis. Required for departmental honors.

Staff

Offered every year

299.9 INTERNSHIP

Students spend a semester working full- or part-time outside the University as part of their academic experience. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work in economics. Offered for variable credit.

Staff

Offered every year

301.1 MICROECONOMICS/Seminar

Mr. Veendorp

Offered every other year

301.2 MICROECONOMICS/Seminar

Staff

Offered every other year

302.1 MACROECONOMICS/Seminar

Ms. Ott

Offered every year

302.2 MACROECONOMICS/Seminar

Staff

Offered every year

313 MONETARY ECONOMICS/Seminar

Mr. Weinrobe

Offered every other year

325 PUBLIC FINANCE/Seminar

Ms. Ott

Offered every other year

326 INDUSTRIAL ORGANIZATION/Seminar

Mr. Veendorp

Offered every other year

327 INTERNATIONAL TRADE/Seminar

Mr. Klein

Offered every other year

328 ECONOMIC DEVELOPMENT/Seminar

Mr. Hsu, Mr. Puffer

Offered every other year

333 HEALTH ECONOMICS/Seminar

Ms. Ott, Mr. Puffer

Offered every other year

365 BASIC ECONOMETRIC THEORY/Lecture

Qualified undergraduates may take Economics 365 with the instructor's permission.

Mr. Shakow

Offered every year

366 APPLIED ECONOMETRICS/Seminar

Mr. Gray

Offered every other year

Education

DEPARTMENT FACULTY

William Damon, Ph.D., *chair*: child development

Helen J. Kenney, Ed.D.: curriculum development, instructional theory, psychoeducation, evaluation

David S. Zern, Ph.D.: cognitive development, socialization, values and education
David Dickinson, Ed.D.: early literacy development; classroom interaction

PART-TIME FACULTY

Barbara S. Berka, M.A.: elementary science education
Denis J. Cleary, M.A.T.: secondary curriculum and instruction
Marilyn F. Engelman, Ph.D.: psychoeducational assessment
Elaine M. Holland, M.A.: psychoeducational diagnosis
Kenner H. Myers, M.S.: early childhood education
Joyce S. Rettstadt, M.A.: creative arts and education
Robert L. K. Richardson, Ph.D.: foundations of education
Katharine Sawdon, M.Ed.: special education
Nathaniel C. Seale, M.Ed.: child study
Reena Friedman Slovin, M.Ed., C.A.S.: psychoeducational diagnosis and assessment
Susan D. Starr, M.Ed.: elementary education
Deborah Yoder, M.A. in Ed.: mathematics, science education

AFFILIATE FACULTY

Thomas P. Friend, M.Ed.: school-university liaison
David J. Kneeland, M.A.: school-university liaison
Elinor M. McKeon, M.Ed.: special education
John F. Monfredo, M.Ed.: school-university liaison
John T. O'Leary, Jr., Ed.M.: school-university liaison
Alexander J. Radzik, M.Ed.: school-university liaison
Robert T. Sullivan, M.S.: school-university liaison

GRADUATE PROGRAM

Jack Demick, Ph.D.: child development
William C. Kvaraceus, Ed.D.: measurement, social deviance
W. George Scarlett, Ph.D.: child development, early childhood education

UNDERGRADUATE PROGRAMS

Undergraduate education constitutes a major part of the work of the department. In conformity with its policy of emphasizing the importance of the liberal arts as a basis for educational practice, the department offers its courses and programs as electives and organized sequences related to an academic major. Clark students in education lay a broad foundation of scholarship in the liberal arts and take a concentration in an academic field to lead into specific teaching certification and certificate programs.

The various undergraduate programs are designed for students interested in preparing for careers as educators in public and private schools and in nonschool, human service-oriented settings, such as family life institutes, day care centers for children and the elderly, youth organizations, courts, hospitals, correctional and rehabilitation institutions, and social service agencies. In conjunction with various academic departments, these programs serve both as preparation for professional study at the graduate level and for entry into beginning teaching and specialist positions. The following programs are provided through integrated course work and field experiences:

(1) *Elementary Education*

The elementary-level (grades 1-6) teacher education program has been approved by the Interstate Certification Compact (ICC), a legally based certification reciprocity agreement between Massachusetts and each of thirty-one other states and the District of Columbia.

(2) *Elementary Education and Special Education*

The special education sequence, taken as an extension of the elementary teaching program, is also approved by the Interstate Certification Compact and leads to dual certification in elementary education and special education.

(3) *Early Childhood Education*

The early childhood education sequence leads to certification as a teacher in grades K-3 and has been approved by the Interstate Certification Compact (ICC).

(4) *Secondary Education*

Secondary mathematics, biology, and chemistry teaching certification sequences (grade 9-12) have been approved by the Interstate Certification Compact (ICC).

(5) *The Psychoeducational Clinician Sequence*

The psychoeducational clinician sequence consists of four courses, including a two-semester practicum, providing intensive first level training in psychoeducational assessment and individualized educational planning. The program is designed especially for students in the junior and senior years who are considering advanced graduate work in school psychology and related professional fields.

(6) *The Human Services Sequence*

The human services sequence consists of four courses, including a two-semester practicum, designed for students interested in pursuing careers and/or graduate study in education and related professional fields such as social work, health and community education, rehabilitation, counseling, and guidance. Students' course work and field experiences deal with diverse groups including children, families, and the aged in settings which may include schools, the court system, mental health agencies, and institutions. Students acquire conceptual as well as experiential skills through a balance of study and applied field work. Interaction with a variety of human service providers and systems in the Worcester area serves to integrate material from the sequence.

(7) *The Elective Program*

Students may elect courses in education for general interest and background or to fill elective requirements in a departmental academic major. The department has crosslistings with English, geography, history, linguistics, psychology, and sociology.

The teaching certification sequences are limited to students who have completed major requirements at a satisfactory level of scholarship. The decision to elect one of the organized teaching programs must be made by the sophomore year at the latest. Admission to and continuance in the program must be approved by the Department of Education, and—for secondary school and special subject teaching—also must be approved by the appropriate academic department for competency in subject matter areas.

Students interested in professional education are encouraged to consult early with the undergraduate program coordinator of the department to discuss overall program planning. The Education Department is part of the Jacob and Frances Hiatt School of Psychology.

GRADUATE PROGRAMS

The department offers one program leading to the degree of master of arts in education, another leading to the degree of doctor of education, and a third leading to dual M.B.A./Ed.D. degrees.

MASTER OF ARTS IN EDUCATION

This degree program is designed to extend the professional training of educational practitioners and administrators. The program may be used to enrich the general theoretical background relevant to a candidate's area of educational practice and to develop new professional skills in individually tailored program concentrations. Master's candidates concentrate their work in areas where there is depth in course offerings available through the resources of the Department of Education and cooperating academic departments in the University. Clusters have been developed in special education, early childhood education, academic subject fields, environmental education, creative arts and education, and educational management.

Admission Requirements

In addition to the general Graduate School admission requirements, a personal interview usually is required by the Department of Education to determine the fit between program resources and a candidate's goals and interests.

Degree Requirements

The course of study consists of a minimum of eight full course units with an additional requirement to be completed by one of three options: (a) an acceptable thesis, (b) the master's seminar in which an independent major paper is prepared and presented to fellow graduate students and members of the staff, or (c) two additional full courses. The passing of a final oral examination is required of all candidates.

DOCTOR OF EDUCATION

The doctor of education degree program is an organized course of study, extending over a three- to four-year period, which enables mid-career practitioners to obtain advanced professional training without unduly disrupting their regular work. The program is planned for the experienced educator of proven ability who expects to assume high-level responsibility in administrative, planning, training, and evaluation roles in schools, government agencies, private organizations, or institutions of higher learning.

All doctoral students complete a core curriculum aimed at imparting a basic understanding of the analytic techniques, the social and behavioral determinants, and the management principles that will contribute to the development of new solutions to significant problems in education. The student then selects one of two program options: the learning specialist or the administrator-planner. The two are closely related. The learning specialist, as a social and psychological analyst, is concerned with the content and methodology of educational programs for a

particular learner or group of learners; the administrator-planner has the task of program development, implementation, and evaluation.

Research seminars are scheduled during the first two years of study. During the first year the student focuses on a specific topic of educational theory or practice as a basis for an analytic paper that typically leads to the development of a dissertation proposal. During the second year, the student begins to formulate a research plan that includes specification of the theoretical framework, methodology, instrumentation, and statistical design for the proposed study. In the third year, the student generally completes the dissertation proposal and conducts the research. By the end of the fourth year, the student completes the research and the required dissertation report.

A small, select group of graduate students ensures the advantages of program flexibility with much opportunity for close and continued contact between faculty and students. All program designs have a significant degree of individuality, reflecting the past training, experience, and professional goals of the students. The individual study plan is developed within a framework of departmental, University, and field resources.

DUAL M.B.A./Ed.D. DEGREE PROGRAM

A dual degree M.B.A./Ed.D. program has been established between the Department of Education and the Graduate School of Management for graduate students who wish to focus on a career in the management of educational institutions.

Admission Requirements

Admission to the doctoral program requires the completion of an acceptable baccalaureate and master's degree, either at Clark or elsewhere. Students who obtain their master's degrees with the department at Clark, and who wish to continue their doctoral studies in the department, must apply for continued study at the doctoral level.

A candidate must give satisfactory evidence of aptitude and capacity for graduate study as reflected in academic performance and aptitude tests (either the Miller Analogies or the Graduate Record Examination). Professional experience, which demonstrates a high level of competence and leadership ability, also is required.

Candidates for the dual M.B.A./Ed.D. degree program must also meet the admission requirements for the M.B.A. degree.

Degree Requirements

Minimal requirements for candidates at the doctoral level demand the equivalent of two years of graduate course work beyond the master's level. A doctoral candidate must pass comprehensive examinations at the end of course work and complete a doctoral dissertation.

Candidates in the dual M.B.A./Ed.D. degree program must fulfill requirements for the M.B.A. degree as determined by the Graduate School of Management.

COURSES

201.1 THE CHILD AND THE EDUCATIVE PROCESS/Lecture, Discussion

Deals with the behavioral and social science foundations of selected aspects of the educative process as they pertain to the elementary school-age child. Theoretical concepts and principles of learning and development are considered in relation to: the setting of educational objectives, instructional strategies, motivation, transfer,

and assessment and evaluation procedures. Required in the elementary and special education sequences leading to certification.

Staff

Offered every year

201.2 THE EXPERIENCE OF ADOLESCENCE/Lecture, Discussion

Explores adolescent development through theory and research drawn from the behavioral and social sciences. Students study, discuss, and report on topics of central importance to education during the adolescent years. Special social and interpersonal problems and issues confronting today's adolescent are considered. Required in secondary level and special subject sequences leading to certification.

Mr. Zern

Offered every year

201.5 EDUCATIONAL PSYCHOLOGY/Lecture, Discussion

This course considers both the nature of the learner throughout the school years and the educative process in general. Theories of teaching, learning, and individual development are treated, as well as methods of evaluation applicable both inside and outside of the classroom.

Mr. Zern

Offered every year in conjunction with COPACE

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING/Lecture, Discussion

A dual focus is on: (1) illustration and analysis of various cognitive and social interpersonal models of teacher and student behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting. Students carry out a series of assigned observational tasks and execute their own individual projects. Refer to Psychology 211.

Mr. Zern

Offered every year

230 THE INSTRUCTIONAL PROCESS/Lecture, Seminar

Examines the goals and underlying values of the school experience with particular reference to the theoretical and empirical literature relevant to the role of the teacher, instructional theory, and evaluation of learning. Various teaching models, traditional and contemporary, are analyzed and critiqued. Classroom observations and a field-based project are required.

Mr. Cleary

Offered every year

234.1-234.2 FIELD EXPERIENCE: SPECIAL EDUCATION AND HUMAN SERVICES/Seminar, Field Placement

These courses provide direct, supervised experience within a wide range of educational and human service agencies. Placements are based upon assessment of students' experience, goals, and academic backgrounds. Placement possibilities include schools, mental health centers, institutions, the courts, substance abuse centers, crisis agencies, and social planning agencies. A University coordinator maintains ongoing contact with the student and placement site to ensure continuity from academic to field work. A concurrent weekly seminar provides the opportunity for students to analyze their field work experience. Special note: These courses may be taken as a full-year, two-course sequence (Education 234.1 and 234.2) or as a single course either semester (Education 234.1).

Mr. Seale

Offered every year

235 FIELD EXPERIENCE IN THE ELEMENTARY SCHOOL/Seminar, Field Placement

Provides an initial experience in the elementary classroom and an introduction to the elements of teaching—curriculum planning, instructional strategies, classroom management, etc. Students spend five hours per week in an assigned classroom assisting the teacher and working with small groups of children. In teams, students develop and teach a unit of instruction. A weekly seminar addresses classroom experience and considers legal and program issues relating to mainstreaming special needs students in the regular school setting.

Ms. Starr

Offered every year

236 PSYCHOEDUCATION CENTER INTERNSHIP/Seminar, Practicum

Provides systematic training in observation, testing, and tutoring of children and adolescents with learning problems. Includes experience both at the Psychoeducation Center and the referring schools, and participation in weekly seminars.

Staff

Offered every year

241 CLARK IN HISTORICAL PERSPECTIVE/Seminar

Refer to course description under History 246.

247.1 CURRICULUM AND INSTRUCTION IN READING AT THE ELEMENTARY SCHOOL LEVEL/Lecture, Discussion, Field Placement

Presents the key elements of skill development, lesson planning, and instruction in reading at the elementary level (grades 1-6). In a two-hour weekly field experience students apply learnings from classroom lecture-discussions. Topics include stages of reading development, selection and organization of content, examination of self-designed and commercial materials, teaching/learning activities, and evaluation of learning outcomes. Training is provided in informal assessment, diagnostic procedures, and use of standardized instruments for evaluation.

Staff

Offered every year

247.2 CURRICULUM AND INSTRUCTION IN READING AND LANGUAGE AT THE EARLY CHILDHOOD LEVEL/Lecture, Discussion, Field Placement

Deals with reading readiness and language development of young children. Key elements of skill development, lesson planning, and instruction in reading at the early childhood level (K-3) are stressed. In a two-hour weekly field experience students apply learnings from classroom lecture-discussions. Topics include stages of reading development, selection and organization of content, examination of self-designed and commercial materials, teaching/learning activities, and evaluation of learning outcomes. Training is provided in informal assessment, diagnostic procedures, and use of standardized instruments for evaluation.

Staff

Offered every year

248.1 CURRICULUM AND INSTRUCTION IN MATHEMATICS AT THE ELEMENTARY SCHOOL LEVEL/Lecture, Discussion, Field Placement

Deals with key elements of curriculum planning and implementation in mathematics for the elementary school: stating of objectives; assessment of initial learner status; selection and organization of content, materials, learning activities; instructional modes; and evaluation of learning outcomes. A weekly two-hour, school-based field experience is required.

Ms. Yoder

Offered every year

248.2 CURRICULUM AND INSTRUCTION IN MATHEMATICS AT THE EARLY CHILDHOOD LEVEL/Lecture, Discussion, Field Placement

Deals with key elements of curriculum planning and implementation in mathematics for the early childhood years. The need for developmentally appropriate content, materials, and learning activities is stressed as well as assessment of initial learner status and evaluation of learning outcomes. A weekly two-hour, school-based field experience is required.

Ms. Myers, Ms. Yoder

Offered every year

251 EDUCATION AND SOCIAL POLICY/Lecture, Discussion

Examines the relationship between social problems, social policy, and education. Conceptual tools for the analysis of social policies are utilized. Examination of existing programs and social agencies enables students to understand agency functions, client population, and the relationship between the individual agency and the larger social service network. Emphasis is placed on: social problems and social solutions, linking individuals and external primary groups with societal resource systems, and the impact of social policy change on individuals and institutions.

Mr. Seale

Offered every year

252 THE EARLY CHILDHOOD EDUCATOR: THEORY AND PRACTICE/Seminar, Field Placement

Each student spends eight to ten hours a week in a field placement and attends a weekly two-hour seminar. Daycare centers, nursery schools, and kindergartens are considered as field sites. Seminar sessions address the nature of the developing child from infancy to age eight, the development of language and thought, the value of play, the early childhood curriculum, the role of the teacher, and the implications of family stress and pressure on the learning child.

Ms. Myers

Offered every year

254 AN INTERDISCIPLINARY PERSPECTIVE ON THE FIELDS OF MATHEMATICS AND SCIENCE/Lecture, Discussion

Considers the history and development of mathematics and science as fields of knowledge and their relationship to other fields as a basis for understanding the aims for secondary school mathematics and science education. Implications for curriculum design and instructional methods are analyzed. Includes presentations by scientists and mathematicians.

Staff

Offered every year

258 INTRODUCTION TO THE FOUNDATIONS OF EDUCATION/Seminar, Colloquium

The purpose of this course is to provide a series of learning experiences which will enable students to understand significant developments in the theory and practice of education in relation to the value system of American society. This series of learning experiences will concentrate on the major educational foundations (history, sociology, and philosophy) of education. Selected educational problems and social issues will be examined, discussed, and determined. Such a course of study has accepted merit among certification agencies as a part of the professional competence in teaching and in the general educational development of the student.

Mr. Richardson

Offered every year

266 PSYCHOEDUCATIONAL ASSESSMENT METHODS I: BASIC LEARNING PROCESSES/Lecture, Discussion, Practicum

Intensive experience in administering and interpreting individual tests of intellectual and perceptual-motor functioning, with particular emphasis on the Stanford-Binet and Weschler Intelligence Scales. A central focus is on underlying theoretical constructs and the interpretation, integration, and application of educational and clinical data for individualized educational planning.

Ms. Engelman

Offered every year

267 PSYCHOEDUCATIONAL ASSESSMENT METHODS II: ACHIEVEMENT AND RELATED PERSONAL AND SOCIAL FACTORS/Lecture, Discussion, Practicum

Focuses on the administration of group and individual tests to determine achievement status and related personal and sociocultural factors such as aptitude, interests, personality, social and interpersonal competencies, cognitive style, and environmental setting.

Ms. Engelman

Offered every year

268 PSYCHOEDUCATIONAL PRACTICUM AND SEMINAR/Seminar, Field Placement

This field-based course provides a two-semester placement, eight to ten hours a week, with the pupil personnel department of a public school system. Each student is placed with a school psychologist and/or a counselor who functions as an ongoing supervisor. Practicum activities include supervised experience in conducting and interpreting psychoeducational assessments, obtaining social and developmental history information through home visits, and observing and participating in the development of individualized educational plans as part of the team evaluation process. A concurrent, weekly seminar focuses on the development, presentation, and discussion of comprehensive case studies.

Mr. Seale

Offered every year

269 THE SKILLED HELPER/Discussion, Practicum

An introductory experience designed for the development of the helping professional. Emphasis is placed on: dynamics of the helping relationship, basic interviewing skills, and approaches to counseling. Students who are not concurrently taking a field course are placed in a human service agency one half day per week.

Mr. Seale

Offered every year

271 FIELD EXPERIENCE: SECONDARY SCHOOL/Seminar, Field Placement

A field-based introduction to methods of teaching in the secondary school. Students work in a classroom to learn about planning instruction and managing classrooms. Differences and needs of individual students are emphasized. The course consists of (1) a field component of five hours per week and (2) a weekly University seminar.

Staff

Offered every year

272.(1-9) CURRICULUM AND METHODS OF TEACHING AT THE SECONDARY LEVEL/Seminar

Taken concurrently with student teaching for the first four weeks of the semester. Mornings are spent in a high school classroom and afternoons in a University seminar aimed at developing the student's ability to design instruction in a specific

subject and at acquainting the student with the typical secondary curriculum. By the end of the course the student will have designed a unit and will have begun to teach it to one class. Offered every spring for one course credit.

272.1 Curriculum and Methods of Teaching Secondary English

272.2 Curriculum and Methods of Teaching Secondary Foreign Languages

272.3 Curriculum and Methods of Teaching Secondary Social Studies

272.4 Curriculum and Methods of Teaching Secondary Science

272.5 Curriculum and Methods of Teaching Secondary Art

272.6 Curriculum and Methods of Teaching Secondary Theater

272.7 Curriculum and Methods of Teaching Secondary Media Studies

272.8 Curriculum and Methods of Teaching Secondary Music

272.9 Curriculum and Methods of Teaching Secondary Mathematics

Academic and Education Department Staff

Offered periodically

272 PRACTICUM IN THE SECONDARY SCHOOL/Field Placement

Intensive twelve-week period of observation and teaching in a secondary (grades 9-12) classroom in the subject in which the student plans to teach. Individual supervision is given by a University supervisor and by a teacher in a cooperating school. Prerequisite: permission of both the academic and education departments. Taken concurrently with 272. (1-9). Offered every spring for two course credits.

Academic Departments,

Offered every year

Staff, Cooperating Teachers

284 YOUNG CHILDREN AND THE ARTS/Workshop

Includes instruction in art, music, and drama for young children. A major aim is to raise the college student's own artistic consciousness and competency along with practical classroom and group application.

Ms. Rettstadt

Offered every year

288 INTERNSHIP MODULE IN ELEMENTARY EDUCATION

This integrated internship provides an intensive experience in elementary schools (1-6) in the Worcester area. It involves a full-time, supervised practicum, including theoretical course work, seminars, and conferences. The elementary module provides credit in the following areas:

288.1 Practicum (two full courses)/Field Placement

288.2 Critical Issues in Elementary Education (one-half course)/Seminar

288.3 Individualized Instruction and the Integrated Curriculum (one full course)/Lecture, Discussion

288.4 Creative Arts and Education (one-half course)/Workshop

In addition to the 288 sequence, workshops in health and physical education for elementary school children are required. Limited to seniors who have completed major requirements and who meet departmental requirements for admission to the internship module.

Staff

Offered every year

289 INTERNSHIP MODULE IN EARLY CHILDHOOD EDUCATION

Provides an intensive experience in the early school grades (K-3) in the Worcester area. It involves a full-time, supervised practicum, including theoretical course work, seminars, and conferences. The early childhood module provides credit in the following areas:

289.1 Practicum (two full courses)

289.2 Critical Issues in Early Childhood Education (1/2 course)/**Seminar**

289.3 Individualized Instruction and the Integrated Curriculum (one full course)/**Lecture, Discussion**

289.4 Creative Arts and Education (one-half course)/**Workshop**

In addition to the 289 sequence, workshops in health and physical education for young children are required. Limited to seniors who have completed major requirements and who meet departmental requirements for admission to the internship module.

Ms. Myers, Staff

Offered every year

291 PSYCHOLOGY AND EDUCATION OF HANDICAPPED CHILDREN AND YOUTH/Lecture, Discussion

An introduction to the field of special education. Mental retardation, learning disabilities, emotional disturbance, hearing and visual impairment, physical handicaps, giftedness, and other categories of exceptionality are explored conceptually and practically. Current issues such as mainstreaming, labeling, and testing also are reviewed.

Staff

Offered every year

292 SEMINAR AND FIELD EXPERIENCE IN SPECIAL EDUCATION/Seminar, Field Placement

The student works under the close direction of a cooperating teacher, for ten to twelve hours a week in a special educational setting (resource room, special class, special agency, etc.). A concurrent weekly University seminar considers language development, communication disorders, and rehabilitation issues.

Ms. Slovin

Offered every year

294 INTERNSHIP MODULE IN SPECIAL EDUCATION

Includes a supervised practicum in a moderate special needs setting at the elementary school level (Grades N-9) with related course work centering on psychoeducational assessment techniques, and individualized educational planning and implementation. Emphasis is placed on the integration and utilization of a full range of data in the design and implementation of individualized educational plans. Module credit is allocated as follows:

294.1 Individualized Educational Planning (one full course)/**Lecture, Discussion**

Staff

Offered every year

294.2 Practicum in Special Education (one full course)/**Seminar, Field Placement**

Ms. Sawdon

Offered every year

299.1 DIRECTED READINGS - UNDERGRADUATE

Offered for variable credit

Staff

Offered every year

299.2 DIRECTED RESEARCH-UNDERGRADUATE

Offered for variable credit

Staff

Offered every year

299.4 FIELD PROJECTS - UNDERGRADUATE

Provides individualized and extended experiences in a wide variety of educational and human service agencies and institutions. Supervision is provided by the University and field agency personnel; combines related seminars, conferences, and readings as a basis for critical analysis of the experiences within the context of applied theory and practice. Offered for variable credit.

Staff Offered every year

299.5 SPECIAL PROJECTS - UNDERGRADUATE

Offered for variable credit.

Staff Offered every year

299.9 INTERNSHIPS - UNDERGRADUATE

Offered for variable credit.

Staff Offered every year

308 PSYCHOLOGICAL PRINCIPLES APPLIED TO EDUCATION AND TEACHING/Lecture, Discussion

An analysis of a number of major psychological theories is made. Each model is then applied to educational issues of particular relevance to the students. Assignments also focus on succinct applications to educational themes. Considers such theorists as Freud, Skinner, Piaget, R. White, Rogers, and Wertheimer.

Mr. Zern Offered every year

310 ADVANCED TOPICS IN PSYCHOEDUCATION THEORY AND RESEARCH/Seminar

This advanced seminar is designed to acquaint graduate students with recent theory and research in the field of psychoeducation based on cognitive-developmental theory, drawing heavily from the work of Heinz Werner, Jean Piaget, and Lev Vygotsky. Focus is on issues of individual and family assessment/intervention in the education and treatment of children and adolescents with "learning problems" and "disordered behavior."

Ms. Kenney Offered every year

326 ADVANCED TOPICS IN SOCIAL AND PERSONALITY DEVELOPMENT/Seminar

Focus is on the complementary processes of socialization and individuation through the life span. The individual's modes of relating to others and of constructing the self are traced through each phase of life. Developmental connections are drawn between early social relations and later social and personal experience. Refer to Psychology 326.

Mr. Damon Offered periodically

345 RESEARCH AND EVALUATION IN EDUCATION PROGRAMS/Lecture, Discussion

Explores the multiple roles of research and evaluation in developing and improving educational programs, emphasizing the effective use and design of needs assessment, policy research, program implementation research, and impact evaluation. Members develop a research design for their own professional setting.

Ms. Kenney Offered periodically

346 RESEARCH TOPICS IN EDUCATIONAL PSYCHOLOGY: COGNITIVE DEVELOPMENT/Seminar

The design and interpretation of research on children's learning in school and beyond-school contexts.

Mr. Damon

Offered every year

351 EDUCATIONAL INSTITUTIONS AND SOCIAL SYSTEMS/Lecture, Discussion

This course focuses on those aspects of sociological research and theory that are directly related to an understanding of educational institutions. In particular, the place of the educational system within the total society and the nature of a school as a society itself are considered.

Staff

Offered periodically

371 THESIS RESEARCH

Individual advisement on doctoral dissertation. Students meet with members of their dissertation committee for assistance with their dissertation study. Advising conferences are scheduled as needed by the individual student with committee members. The chair of the dissertation committee coordinates the advising process.

Staff

Offered every year

380 DEPARTMENTAL MASTER'S SEMINAR/Presentations, Discussion

Designed for master's degree candidates who are not writing a thesis. Requires a major analytic paper on a significant educational problem or issue which may include an empirical or practical component. Students meet individually and in small groups to develop a topic focus and to discuss relevant research and professional literature.

Ms. Kenney, Staff

Offered every year

383 HUMANITIES SEMINAR: LEARNING AND KNOWING/Lecture, Discussion

An interdisciplinary study of the variety of ways we learn and know. The focus is a consideration of the various and often conflicting views of the ideal of the educated person.

Mr. Overvold

Offered every year in conjunction with COPACE

384 METHODS OF EDUCATIONAL RESEARCH/Seminar

This course presents the language, principles, logic, and methodology of conducting educational research.

Ms. Kenney

Offered every year

386 RESEARCH TOPICS IN EDUCATIONAL PSYCHOLOGY: SOCIAL DEVELOPMENT/Seminar

The design and interpretation of research on social- and self- processes related to children's intellectual achievement.

Mr. Damon

Offered every year

391 QUANTITATIVE MEASUREMENT AND ANALYSIS I/Lecture, Seminar

Introduction to measurement theory and basic statistics. Topics covered include measurement scales, instrument development, reliability, and validity; descriptive

statistics; and correlational analysis. Practical experience in development of an instrument, collection of data, validity and reliability analysis using SPSS computer programs.

Mr. Demick

Offered every year

392 QUANTITATIVE MEASUREMENT AND ANALYSIS II/Lecture, Seminar

Statistical hypothesis testing, including chi-square tests, t-tests, tests of correlations, multiple regression, ANOVA, and ANCOVA. Practical experience in formulating and testing hypotheses using a real data set and SPSS computer analyses and in interpreting and reporting statistical results.

Mr. Demick

Offered every year

399.1 DIRECTED READINGS - GRADUATE

Offered for variable credit.

Staff

Offered every year

399.2 DIRECTED RESEARCH - GRADUATE

Offered for variable credit.

Staff

Offered every year

399.4 FIELD PROJECTS - GRADUATE

Offered for variable credit.

Staff

Offered every year

399.5 SPECIAL PROJECTS - GRADUATE

Offered for variable credit.

Staff

Offered every year

399.9 INTERNSHIPS - GRADUATE

Offered for variable credit.

Staff

Offered every year

English

DEPARTMENT FACULTY

Virginia M. Vaughan, Ph.D., *chair*: Shakespeare, Renaissance drama, Renaissance poetry and prose

James F. Beard, Ph.D., Research Professor

Charles S. Blinderman, Ph.D.: science and literature, Victorian literature, etymology

John J. Conron, Ph.D.: American literature, American studies, American landscape

James P. Elliott, Ph.D., *coordinator of graduate studies*: American literature, literary theory, contemporary narratives, editing

SunHee Kim Gertz, Ph.D.: Chaucer, medieval literature, literary theory

Serena S. Hilsinger, Ph.D.: modernist literature, women writers

Leone Scanlon, Ph.D., *director of writing center*: composition

Maren E. Stange, Ph.D., *coordinator of program in communications*: communications, American studies

Stanley Sultan, Ph.D.: modernist literature, literary theory, Anglo-Irish literature

Roberta E. Tovey, Ph.D.: Restoration and eighteenth-century novel

EMERITI

Karl O.E. Anderson, Ph.D.

William H. Carter Jr., Ph.D.

Jessie C. Cunningham, Ph.D.

UNDERGRADUATE PROGRAM

The English Department's program is designed to meet the needs and interests of nonmajors as well as majors. It aims to assist all students in developing skills in close reading, critical thinking, and effective writing, as well as in acquiring knowledge and experience valuable in any vocation. Instructors offer a spectrum of approaches to literary study ranging from linguistic and textual analysis to interpretations that complement other disciplines, such as film, painting, philosophy, psychology, science, management, comparative literature, and history.

The program encourages the development of a sense of cultural history, a sensitivity to literary values, and a firsthand knowledge of important authors, works, and periods of literature in English. The prospective English major chooses at first among elective courses, gradually focusing on the study of some particular period, theme, or activity appropriate to the student's interests. *Introduction to Literature and Composition* (English 20), an elective, is particularly recommended for freshmen because it combines training in close reading with critical thinking and writing. *Expository Writing* (English 18), also an elective, is especially valuable for students wishing to concentrate on their writing. During the freshman year, the prospective English major may wish to take or to begin a two-semester historical sequence. These include *Major American Writers*, (English 169-170); *English Poetry*, (English 110-111); *English Fiction*, (English 131-132); *English Drama*, (English 122-123); and *Fiction by Women Writers*, (English 133-134).

In the sophomore year, majors normally continue their work in an historical overview. Also during this year, the major selects—in consultation with an adviser and other appropriate members of the staff—a suitable area of concentration. The concentration part of the English major is an integrated structure permitting each student to choose from a wide variety of recommended courses, inside and outside the English Department, that are related to the particular periods, themes, or activities appropriate to the student's special interests. A major concentrating in literary criticism and aesthetics, for example, might achieve this integration by taking relevant courses in comparative literature, linguistics, philosophy, intellectual history, psychology, and in arts other than literature. Other suggested areas of concentration include: literature of the Renaissance, American literature, American studies, literature and the teaching of English, literature and business, literature and science, literature and the performing arts, twentieth-century literature, women's studies, and writing (including journalism). Students wishing a double major may make the second major the basis for their concentration, or they may—with the approval of their advisers and the department—evolve their own concentrations. Since the value of the concentration will depend, to a considerable extent, on the confluence of studies from a variety of disciplines, the importance of regular consultation with advisers in the selection of courses cannot be overstressed.

The basic program for all English majors may be summarized as follows. It should be noted that some courses fulfill more than one requirement and that some courses, by arrangement through the Worcester Consortium colleges, may be taken at Assumption College and the College of the Holy Cross. The English Department is part of the Alice Coonley Higgins School of Humanities.

SUMMARY PROGRAM FOR ENGLISH MAJORS

Nonrequired Preparatory Courses:

18 *Expository Writing /Workshop*

19 *The Essay: Reading and Writing/Workshop*

20 *Introduction to Literature and Composition*

General Requirements:

- A. One course on poetry: 110, *English Poetry I* or 112, *American Poetry*
- B. Two of the following four historical sequences:
 - 1. 169-170, *Major American Writers*
 - 2. 111, *English Poetry II*
 - 3. 131 and 132, *English Fiction*; 133, *Fiction by Women Writers*; and 134, *Modern Fiction by Women Writers* (two of these four courses)
 - 4. 122 and 123, *English Drama*
- C. One 200-level seminar in criticism from the following:
 - 264, *American Literary Renaissance*; 240, *Varieties of Literary Criticism*
 - 241, *Mythopoetic Mode*; 237, *Studies in Narrative Form*; 340, *Introduction to Graduate Study in English*; Comp. Lit. 251, *Seminar in Literary Criticism*
- D. Area Requirements:

To help majors develop greater historical perspective and awareness of the range and variety of English and American literature, all majors must take at least:

- 1. Two full courses or seminars dealing with English literature written before 1700. (One of these courses may be 100-level, i.e.: 120, *Introduction to Shakespeare*; 111, *English Poetry II*; 122, *English Drama I*; or 150, *Medieval Literature*.)

The 200-level courses fulfilling this requirement include:

- 250, *Medieval Literature*
- 251, *Chaucer*
- 253, *Advanced Shakespeare*
- 255, *Studies in the Renaissance*
- 2. Two full courses or seminars dealing with English or American literature written between 1700 and 1900. (One of these courses may be 100-level, i.e.: 133, *Fiction by Women Writers*; 169 or 170, *Major American Writers*; 131 or 132, *English Fiction*; or 123, *English Drama II*.) The 200-level courses fulfilling this requirement include: 261, *Jane Austen*; 263, *British Romantic Literature*; 264, *American Literary Renaissance*; 280, *American Culture and Society, 1820-1860*; 265, *Victorian Literature*; 266, *Romantic and Victorian Gothic*; 267, *Darwinism*; 269, *American Realism*; or 283, *American Landscapes*
- E. Every major's program must include at least four full-semester courses at the 200-level in English in addition to the required seminar designed to suggest or demonstrate different means of achieving critical synthesis.

HONORS PROGRAM

A student who wishes to take honors in English should choose a topic and an adviser and apply to the department chair before the end of the junior year. See English 2998, *Honors in English*, for details.

DIRECTED RESEARCH OPPORTUNITIES

During their junior and senior years, English majors are encouraged to experience professional literary scholarship by engaging in research with a professor of the student's choice. The research may take several forms: It may be funded by a grant; it may be undertaken for course credit; or it may be in the form of a special project. Past research projects have included work on the scholarly editions of James Fenimore Cooper's texts, investigation of the theater history of *The Tempest* and *Othello*, review of commentaries on classic twentieth-century drama, and studies in Darwinism. Students should identify an area of interest and contact their advisers to see if such work is desirable for their concentrations.

INTERNSHIP OPPORTUNITIES

In cooperation with the University's Internship Office, the English Department administers a program of internships for juniors and seniors. Internships are available both in University offices and in the city—in newspapers, news departments of radio and television stations, periodical and book publishers, and communications departments. Internships can in most cases be integrated into the student's chosen concentration.

GRADUATE PROGRAM

The University offers a program leading to the master of arts degree in English. A limited number of scholarships providing tuition remission are available for superior students. The department also offers several teaching assistantships, involving half-time teaching and half-time study, with stipends ranging up to \$6,100, plus the remission of tuition. For the master of arts, the student must complete satisfactorily at least eight full upper-level courses or seminars, including 340, *Introduction to Graduate Study*; and 396, *Thesis Workshop*. In addition to completion of the master's thesis (English 397), the student must pass a final oral examination. Some teaching experience at Clark, or such other teaching as the department may regard as equivalent, is prerequisite to the master's degree.

COURSES

INTRODUCTORY COURSES

20 INTRODUCTION TO LITERATURE AND COMPOSITION/Discussion

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama. Small sections and limited reading lists help establish an atmosphere conducive to significant class discussion; emphasis is placed on writing effectively about literature. Strongly recommended for prospective English majors. No student may take more than one section of English 20.

Staff

Offered every year

WRITING COURSES

15 BASIC WRITING/Workshop

Designed to prepare students to do college level writing, the course is required of some students on the basis of placement screening. Through frequent writing and rewriting the course works to develop fluency, organizational and editing skills, and mastery of basic sentence structure.

Staff

Offered every year

16 CREATIVE WRITING: FICTION/Workshop

This is a course designed to cultivate and guide student work chiefly in the short story, but students may also work with the lyric poem and the informal essay. Class meetings deal largely with important aspects of the art of fiction; published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: one semester of literature taught in any department. Graded only on a credit/no record basis.

Staff

Offered periodically

17 CREATIVE WRITING: POETRY/Workshop

This course is open to students who have taken English 16 and to students mainly interested in writing verse. Prerequisite: one semester of literature taught in any

department. Not open to freshmen. Graded only on a credit/no record basis.
Staff Offered periodically

18 EXPOSITORY WRITING/Workshop

This course will define writing as thinking through language—a way of discovering and exploring thought and a way of communicating it to an audience. Centered on student writing, the course seeks to enable students to enact this process of exploring and learning as well as to prepare written products, including a short investigative paper, appropriate to a range of rhetorical situations.

Staff Offered every semester

19 THE ESSAY: READING AND WRITING/Workshop

This course is designed to help those who have acquired competence in expository prose to improve their style and rhetorical competence through reading and writing essays. The reading includes essays by such writers as Alice Walker, Annie Dillard, Frederick Douglass, and Stephen Jay Gould. Extensive writing and rewriting will be done. The course meets the *verbal expression* requirement.

Ms. Scanlon Offered every year

100 WRITING FOR MAGAZINES/Workshop, Lecture

This course is designed to help students develop appropriate styles for submission of expository articles to magazines and newspapers. Writing assignments are heavy; reading is in contemporary periodicals. There are occasional guest speakers. Prerequisite: permission of instructor.

Ms. Tovey/Staff Offered every year

101 ADVANCED CREATIVE WRITING/Workshop

This course requires admission by permission of instructor, who will require a sample of the student's work. Enrollment is limited to ten students. Like most of our other writing courses, English 101 is graded on a credit/no record basis.

Staff, Writer-in-Residence Offered periodically

102 DOCUMENTARY WRITING

This course, designed especially for Communications concentrators, emphasizes writing skills important in communications fields. Course work offers practice in composing effective documentary texts that incorporate narrative, exposition, dramatization, captions and interviews. Students' projects in several media are presented in class. Not open to freshmen. Limit: fifteen students.

Ms. Stange Offered every other year

103 LITERARY RESEARCH AND WRITING

This course gives the student instruction in word processing as well as in methods of writing professional research papers in expository prose. The entire semester is spent on the production of one longer paper that is to meet a requirement for another course which the student is taking concurrently. Meets the *verbal expression* requirement.

Ms. Gertz Offered every year

LITERATURE COURSES

POETRY

110 ENGLISH POETRY I/Lecture, Discussion

The sequence 110-111 focuses on the development of the most important forms, themes, and movements in English poetry. This course, required for the English

major, emphasizes intensive study and discussion of individual poems. It includes a series of essays on assigned topics and fulfills the *verbal expression* requirement.
Ms. Hilsinger, Mr. Sultan
Offered every semester

111 ENGLISH POETRY II/Lecture, Discussion

This is the sequel to English Poetry I. Poetry by Stevens, Dickinson, Wordsworth, Pope, Milton, and a group of Renaissance lyric poets is studied in that sequence (reverse chronology).

Mr. Sultan

Offered every year

112 AMERICAN POETRY/Discussion

A study of selected American poets in light of a common theme or poetic form, this course is designed to introduce students to the close reading of poetry and to questions of its relation to American culture. In 1987, the theme was "The Poet in a Landscape" and the poets studied included Walt Whitman, Emily Dickinson, Robert Frost, William Carlos Williams, Gwendolyn Brooks, Theodore Roethke, and Mary Oliver. Mr. Conron

Offered every other year

DRAMA

120 INTRODUCTION TO SHAKESPEARE/Lecture

Designed for any student who wants an introduction to Shakespeare, this course studies several major plays in detail, stressing interaction of plot and character while relating each play to common human situations and moral dilemmas. Particular attention is paid to *values*, what they are, and how the characters deal with them. At least six plays will be read, including one major tragedy. Prerequisite: verbal skills course or permission of the instructor.

Ms. Vaughan, Ms. Gertz

Offered every year

122 ENGLISH DRAMA I/Lecture

This course is the first half of a survey of drama and its historical and social context in English-speaking countries. It covers the medieval theater and the drama of Renaissance England to the closing of the theater in 1642 by the Puritan republic. No prerequisite.

Ms. Vaughan

Offered every other year

123 ENGLISH DRAMA II/Lecture

This course is the second half of a survey of drama in its historical and social context in the English-speaking countries. It covers the three centuries from the restoration of the English monarchy and the reopening of theaters in 1660 to the 1970s. No prerequisite.

Mr. Sultan

Offered every other year

NARRATIVE

130 THE SHORT STORY/Lecture

This course involves intensive reading of stories that exemplify a variety of fictional methods and affords the student some knowledge of the history of this literary type. The primary aim is to help the student develop an appreciation of the relationship between the methods and the broadly human values implicit in the short story. Prerequisite: verbal skills course or permission of instructor.

Mr. Elliott

Offered every other year

131 ENGLISH FICTION/Lecture

The sequence 131-132 is an exploration of British narrative and fictive modes from the eighteenth century to the present. In this course, texts include: *Roxana*, *Tom Jones*, *Tristram Shandy*, and *Pride and Prejudice*. Close attention is paid to both texts and their intellectual contexts.

Ms. Tovey/Staff

Offered every other year

132 ENGLISH FICTION/Lecture

This course continues the exploration of British narrative and fictive modes. Writers studied include Bronte, Dickens, Lewis Carroll, and Hardy. Close attention is paid to both texts and their intellectual contexts.

Ms. Tovey/Staff

Offered every other year

133 FICTION BY WOMEN WRITERS, 1688-1899/Lecture

Authors read include Behn, Burney, Austen, Bronte, Eliot, Gilman, Chopin. The emphasis in this course is upon these women authors' and their characters' reactions to, and interactions with, the atmospheres and landscapes of their respective ages. Prerequisite: verbal skills course or permission of instructor.

Ms. Hilsinger

Offered every other year

134 MODERN FICTION BY WOMEN WRITERS/Lecture

The selection of authors and works is based on three major concerns: that the literature read represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. The course is concerned with works written in the twentieth century that provide portraits of women in all stages and conditions of life, rendered in a broad spectrum of fictional techniques. Authors studied include Gertrude Stein, Djuna Barnes, Katherine Mansfield, Virginia Woolf, Katherine Ann Porter, Zora Neale Hurston, and Iris Murdoch. Prerequisite: verbal skills course or permission of instructor.

Ms. Hilsinger

Offered every other year

135 MODERN AMERICAN FICTION/Lecture, Discussion

This is a critical introduction to the best American fiction from about 1900 to 1960, with emphasis on its aesthetic values, sociological insights, and philosophical implications. Authors read include Dreiser, Anderson, Fitzgerald, Hemingway, Capote, Faulkner, Ellison, Mailer, and others.

Staff

Offered periodically

136 CONTEMPORARY COMPARATIVE NARRATIVES/Lecture, Discussion

This is a study of representative contemporary fiction written between approximately 1960 and the present. Comparisons among American, British, and European writers such as Percy, Lessing, Kundera, Boll, Duras, Gardner, and Calvino focus on their depictions of the role of fiction-making in contemporary society. Emphasis is also on the students' ability to make such comparisons. Prerequisite: verbal skills course or permission of instructor.

Mr. Elliott

Offered every year

237 STUDIES IN NARRATIVE FORM: CLUSTER COURSE

This course explores narrative both structurally and historically with an emphasis on literary fiction as a particular kind of narrative form. We follow the evolution of narrative in Western literature through the aesthetics of realism and modernism as they have been elaborated in fiction and in critical theory. The relevance of nonliterary narrative to the understanding of fiction is also discussed. Texts include both novels and films.

Mr. Conron, Mr. D'Lugo

Offered periodically

296 CONTEMPORARY LITERARY THEORY/Seminar

This course will trace the development of several theoretical approaches to literature in the twentieth century, culminating with recent positions. We will also attempt to apply these approaches to several literary works. General areas of study will be selected from among the following: textual criticism, new criticism, semiotics, phenomenology, psychoanalysis/reader response, structuralism, post-structuralism, feminism, Marxism.

Mr. Elliott

Offered every year

CRITICISM

240 VARIETIES OF LITERARY CRITICISM/Seminar

Using a small number of model literary works, this course explores the theory and practice of alternative critical perspectives and schools of criticism. Prerequisite: permission of instructor.

Mr. Sultan

Offered periodically

241 THE MYTHOPOETIC MODE/Seminar

This course explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's *Henriad*, Milton's *Paradise Lost*, Bronte's *Wuthering Heights*, Melville's *Moby Dick*, and a work of the modern period. Candidates for honors in English are encouraged to elect either this seminar or English 240 in their junior year. Prerequisite: permission of instructor.

Ms. Hilsinger

Offered every year

340 INTRODUCTION TO GRADUATE STUDY IN ENGLISH/Seminar

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principle areas in the discipline—bibliography and textual analysis, literary history, and literary criticism. M.A. candidates not specifically exempted are required to take this course.

Mr. Sultan

Offered every fall semester

PERIOD COURSES

MEDIEVAL AND RENAISSANCE

150 MEDIEVAL LITERATURE

This course traces the influences and the impact of medieval literature in the literary continuum of Western culture, examining classical roots and contemporary counterparts. The course concentrates on a different theme each year that may be drawn from the following repertoire: Rhetoric and Romance in Medieval Literature; Narratology; The Shrinking Stage in Western Literature; The Epic Hero and the Lady Lover; Vergil in the Middle Ages; and Ovid in the Middle Ages. Students may take the course more than once provided they study a different theme each time.

Ms. Gertz

Offered every year

250 MEDIEVAL LITERATURE/Seminar

This course emphasizes literary theory as well as literature of the Middle Ages. The course attempts to achieve a sense of medieval literary culture and hence uses texts from the continent as well as from Great Britain and from the classical period. Texts will vary each time the course is offered.

Ms. Gertz

Offered every other year

251 CHAUCER/Seminar

This course guides the student through *The Book of the Duchess*, *The House of Fame*, *The Parlement of Fowls*, some *Canterbury Tales*, and *Troilus and Criseyde*.

Ms. Gertz

Offered every other year

253 ADVANCED STUDIES IN SHAKESPEARE

This course will study recent trends in research and criticism of Shakespeare's texts, using at least nine plays as a foundation. Topics and focus will vary from year to year, but will include feminist, new historicist, and cultural materialist interpretations, performance criticism and theatre history. Open only to students who have successfully completed English 120 or to junior and senior English majors.

Ms. Vaughan

Offered every year

255 STUDIES IN THE RENAISSANCE/Seminar

This course explores the poets, playwrights, and prose writers who shaped the English literary Renaissance. Authors to be studied may include Thomas More, Philip Sidney, Edmund Spenser, John Donne, William Shakespeare, George Herbert, Ben Jonson, Andrew Marvell, Robert Herrick, John Milton, Thomas Browne, and John Dryden. Their writings are placed in the socio-political context of the sixteenth and seventeenth centuries. Permission of the instructor required.

Ms. Vaughan, Ms. Tovey

Offered periodically

EIGHTEENTH AND NINETEENTH CENTURIES

167 LITERATURE AND SCIENCE/Lecture, Discussion

This course traces the impact of scientific discovery upon literature and the literary accomplishments of scientists. The course is thus a study both in the history of ideas and in literary style. Student research is encouraged.

Mr. Blinderman

Offered periodically

169 MAJOR AMERICAN WRITERS/Lecture, Discussion

The sequence 169-170 takes a historical approach to American literature from Puritanism to the present. This part of the sequence concentrates on early American literature, 1630-c. 1855. Texts by Taylor, Edwards, Franklin, Cooper, Emerson, Thoreau, Poe, Hawthorne, Melville and others are read closely.

Mr. Conron

Offered every year

170 MAJOR AMERICAN WRITERS/Lecture, Discussion

This part of the sequence 169-170 concentrates on the evolution of American literature from c. 1855 to the present. Texts by Whitman, Twain, Howells, Dickinson, Jewett, Crane, James, Frost, Eliot, Faulkner, and Hemingway are read closely.

Mr. Elliott

Offered every year

226 READINGS IN THE RESTORATION & EIGHTEENTH CENTURY/Seminar

This course will be an introduction to the period with readings in the chief writers from 1660 to 1800. The emphasis will be on the literature of the eighteenth century, with the Restoration serving to create an historical and social context; readings in the Restoration will be limited to a selection of poetry, including Dryden, excerpts from Pepys' *Diaries*, and two representative plays (Congreve's *The Way of the World* and Dryden's *All for Love*). The eighteenth-century material will be presented in a fairly traditional context suitable to an introduction, with attention to the history of the period, and secondary readings in such writers as Locke, Hume, Burke and Young. In addition, students will be asked to investigate one aspect of the period in depth on their own.

Staff

Offered every other year

261 JANE AUSTEN/Seminar

This is a close study of Jane Austen in the context of the literary and social concerns of the late eighteenth- and early nineteenth-centuries. The bulk of the reading is in Austen: Texts include all of the mature novels, as well as the unfinished works and selections from the *Juvenilia*. The course also addresses writers whose works inform and influence Austen, such as Burney, Radcliffe, Johnson, and Cowper. Prerequisite: permission of the instructor.

Ms. Tovey/Staff

Offered periodically

263 BRITISH ROMANTIC LITERATURE/Seminar

This course examines its subject from different perspectives—philosophical, biographical, and critical. To uncover what the Romantic sensibility is—how it relates to nature, love, revolution—we study selected works of the major Romantic authors: Burns, Blake, Wordsworth, Coleridge, Shelley, and especially Keats and Byron.

Mr. Blinderman

Offered every other year

264 AMERICAN LITERARY RENAISSANCE/Seminar

Characteristic writings by Emerson, Thoreau, Hawthorne, Poe, Melville, and Whelan are examined and juxtaposed dialectically to explore the uniqueness of their individual and collective accomplishments and their larger implications in the context of American culture. Field trip to Concord and possibly elsewhere. Prerequisite: permission of instructor.

Staff

Offered every year

265 VICTORIAN LITERATURE/Seminar

Although literary works are examined critically, the seminar focuses upon the ways in which these works define issues—such as evangelical ethics, subversive science, social reform, pre-Raphaelite painting, and decadence—of concern to Victorians and to us.

Mr. Blinderman

Offered every other year

266 ROMANTIC AND VICTORIAN GOTHIC/Seminar

This seminar calls forth the Gothic spirit from its residence in graveyards. It is designed to introduce students to Frankenstein's monster, Heathcliff, Dracula, transvestites, and other aberrations infesting Gothic poetry and prose from the mid-eighteenth century to the present. Films and a field trip are included.

Mr. Blinderman

Offered every other year

267 DARWINISM/Seminar

Interdisciplinary in nature, this course is devoted to the study of original and research materials elucidating the scientific, philosophical, religious, and social dimensions of Darwinism. The course examines chiefly Darwinian ideas about the survival of the fittest in English and American literature. Prerequisite: permission of instructor.

Mr. Blinderman

Offered every other year

269 AMERICAN REALISM/Seminar

This course explores the artistic assumptions underlying American realism through selected works of America's best-known realists, as selected from Twain, Howells, James, Crane, Norris, and Dreiser. We also pay some attention to the development of each writer by reading samples of his early and later work. Prerequisite: permission of instructor.

Mr. Elliott

Offered every year

TWENTIETH CENTURY

271 HARDY AND LAWRENCE/Seminar

A concentration on the novels of Thomas Hardy and D.H. Lawrence. The two writers have personal and ideological affinities. Taken together, their works span the late nineteenth and early twentieth centuries and so offer contrasting perspectives on an important transitional period. Hardy writes at the end of the Victorian era, Lawrence at the beginning of the modern. Hardy looks back, Lawrence forward; Hardy's stance is social and nostalgic, Lawrence's psychological and apocalyptic. Each illuminates the other, and each reflects the intellectual currents of the time. Readings include the major novels of each author and selections from essays and letters. Prerequisite: permission of instructor.

Ms. Tovey/Staff

Offered periodically

272 LAWRENCE AND JOYCE/Seminar

An intensive introduction to the art of the two writers. Poems, short stories, and novels by both are studied. Prerequisite: permission of instructor.

Mr. Sultan

Offered periodically

273 THE IRISH LITERARY MOVEMENT/Seminar

A course in the inception, development, and effect of the literary movement during the end of the last century and the first decades of this one that created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature also are studied. Prerequisite: permission of instructor.

Mr. Sultan

Offered periodically

274 W.B. YEATS/Seminar

An intensive study of the accomplishments of Yeats. The principal concern is his poetry, but attention is given to his thought, his dramatic and other writings, and his cultural role in Ireland and the world during his time. Prerequisite: permission of the instructor, or one of the following: *English Poetry*, *The Irish Literary Movement*, *Works of Virginia Woolf and T.S. Eliot*.

Mr. Sultan

Offered periodically

275 WORKS OF VIRGINIA WOOLF AND T.S. ELIOT/Seminar

This seminar is devoted to an examination of works of Virginia Woolf and T.S. Eliot. Seminar reading and discussion focus on a comparative study of the following works: *The Love Song of J. Alfred Prufrock* and *A Haunted House*; *The Waste Land* and *Jacob's Room*; *To the Lighthouse* and *Ash-Wednesday*; *The Waves* and *Four Quartets*; *Between the Acts* and *Murder in the Cathedral*. Prerequisite: permission of the instructor.

Ms. Hilsinger

Offered every other year

INTERDISCIPLINARY COURSES

AMERICAN STUDIES

280 AMERICAN CULTURE AND SOCIETY, 1820-1860/Discussion

This course is an interdisciplinary study of the emergence of America as a nation and as a culture. The course concentrates on the conflict between the ideals of individualism, nature, and community and the realities of changing social conditions. Attention is paid to some significant patterns of Jacksonian thought and politics, to cultural geography, and to the arts (literature, painting, and architecture). There are several field trips. Enrollment limited to twenty students.

Not offered in 1988-89

281 AMERICA SINCE 1860/Discussion

This course is an interdisciplinary study of the American city since 1860. Cultural patterns and themes studied include the interrelation of ideals of community and changing social organization and the role of some ideas (Darwinism, realist and modernist aesthetics) in perceptions of the city. The course includes perspectives of historians, geographers, sociologists, and artists (primarily in literature, painting, film, and photography). Enrollment limited to twenty students.

Not offered in 1988-89

282 THE ARTS IN MODERN CULTURE

Writers studied in this course analyze the arts culturally and politically as well as aesthetically and historically. Acknowledging that the advent of industrial society and mass communications has altered the nature and functions of fine and popular arts just as it has changed other aspects of life, they extend their concerns beyond the traditional "high arts" to films, photography, television, advertising and popular culture. Writers may include Berger, Benjamin, Barthes, Sontag, and Jameson.

Ms. Stange

Offered every year

283 AMERICAN LANDSCAPES/Discussion

This course concentrates on the effects of the picturesque aesthetic on the representation of nineteenth-century American spaces—landscapes, domestic spaces and mindscapes—in literature, painting, architecture and landscape gardening. The course is sometimes taught as part of a cluster of courses in Geography (Professor Johnson) and Art (Professor Grad). Limited to twenty students. Permission of instructor required.

Mr. Conron

Offered every year

284 EUROPEAN ROOTS OF AMERICAN SPACE: THE CROSS-ATLANTIC EXPERIENCE/Seminar

This course examines the European images of the known world at the time of the discovery of America and inquires how these early notions affected later thought about America in the areas of the arts, geography, and philosophy. With the use of literature, film, and other artistic forms, specific spatial constructs are studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. Enrollment is limited to fifteen students.

Mr. Conron

Offered periodically

285 THE END OF AMERICA: LOS ANGELES

The modern city reflects the values and forces which have shaped Western culture in its westward course. In the last century the history of Los Angeles—the western end of American space—embodies better than that of any other city the polemic between traditional and technological notions of the modern city. It provides a unique, possibly the ultimate, model for the examination of the American cultural spirit, perhaps even of the end of that spirit. This cluster course is designed to explore the changing notions of the city and the American attitude toward the culture of cities through close examination of the history, geography, literature, and film associated with Los Angeles.

Mr. Conron

Offered periodically

286 STUDIES IN LANDSCAPE

This seminar concentrates on the representation of twentieth-century American space—landscapes, cityscapes, interiors and mindscapes—in literature, painting, photography and film. Limited to fifteen students. Prerequisite: English 283, *American Landscapes*.

Mr. Conron

Offered every other year

COMPARATIVE LITERATURE

A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's adviser in the English Department as being meaningfully related to the student's overall program of English studies. The 200-level courses of the Comparative Literature Program such as Comparative Literature 230, 240, and 251 are especially recommended.

LANGUAGE AND COMMUNICATIONS

190 COMMUNICATIONS, CULTURE AND SOCIETY

A core course rather than a survey or introduction, this course focuses on concepts and ideas from several disciplines that contribute to (or criticize) the intellectual foundations of the communications field. Philosophical and humanities-oriented in approach, the course may include readings by Barthes, Dewey, Lippman, Saussure, and Sontag. Prerequisite: Enrolled students must have taken or be taking concurrently at least one other communications concentration course. Permission of the instructor is required.

Ms. Stange

Offered every year

192 ETYMOLOGY/Lecture, Discussion

This course increases students' vocabularies through a study of the history of the English language—from its Indo-European source to contemporary slang additions.

Mr. Blinderman

Offered periodically

193 THE LANGUAGE OF BIOLOGY/Lecture, Discussion

In this course students study Latin and Greek roots and affixes that constitute biological terms in disciplines such as paleontology, taxonomy, and medicine.

Mr. Blinderman

Offered periodically

294 HISTORY OF THE ENGLISH LANGUAGE/Lecture, Discussion

Focusing on the English language from a historical perspective, this course examines the changes in English during the Anglo-Saxon, medieval, and early modern periods. In addition to learning phonological and grammatical characteristics of the language during each period, the student examines language as a mirror of culture.

Ms. Gertz

Offered every other year

INDEPENDENT PROJECTS

2991 DIRECTED READINGS

Offered for variable credit.

Staff

2995 SPECIAL PROJECTS

Offered for variable credit. Staff Note: When asking an instructor to sponsor directed readings (2991) or a special project (2995), the student should: (1) demonstrate competence to deal with the materials as literature and (2) present a well thought out proposal. The student must take the initiative in selecting readings or carrying out the special project.

2998 HONORS IN ENGLISH: SENIOR YEAR

A student who plans to take Honors in English should choose a subject and an adviser and apply to the department chair before the end of the junior year. At the

student's discretion and with the adviser's approval, a student may register for an *Honors in English* project, which will carry one or two credits. If the project warrants two courses, credit for one semester's *Directed Reading* and one semester's *Directed Writing* can be arranged simultaneously or in sequence. The adviser and the student will agree on deadlines for the project's stages, but the department requires a first draft by the first Monday in April. A complete thesis is due one week before the last day of classes. A second reader, chosen by the student and the adviser, participates in the final evaluation. In no case will honors be granted to any student who fails to meet both deadlines (although the project still qualifies for course credit and a grade).

Staff

2999 INTERNSHIP

Offered for variable credit.

396 THESIS COLLOQUIUM

The purpose of the Thesis Colloquium is to provide graduate students with guidance, expertise and resolution toward the Master's thesis. It should be taken in the spring term (second year for TA's and first year for Scholars) after the approval of the prospectus. While the exact format of the workshop will vary according to the professor conducting it, the Colloquium can include scheduled visits by English Department faculty as well as faculty from other departments to talk about their fields of expertise and oral presentations by students from prepared outlines or working hypotheses of their thesis topics.

Staff

Offered every spring semester

397 MASTER'S THESIS

Prerequisite: permission of department chair.

Staff

3991 GRADUATE DIRECTED READINGS

May be elected by students who want to pursue in-depth a topic other than that chosen for the master's thesis. Prerequisite: permission of instructor and department chair or director of graduate studies.

Offered for variable credit.

Staff

Environment, Technology and Society

PROGRAM FACULTY

Christoph Hohenemser, Ph.D., *chair*: physics, technology assessment, risk analysis, hazard management

Halina Brown, Ph.D.: chemistry, toxicology, risk analysis and management, public health policy

John A. Davies, Ph.D.: physics, energy analysis

Jacque L. Emel, Ph.D.: water resources, water resources planning and policy, hydrology

Robert L. Goble, Ph.D.: physics, energy studies, atmospheric transport, risk analysis and management
 Frederick Greenaway, Ph.D.: chemistry, environmental analysis
 Roger E. Kasperson, Ph.D.: geography, environmental policy, decision making, risk analysis and management
 Todd P. Livdahl, Ph.D.: ecology, population biology
 Samuel Ratick, Ph.D.: environmental modeling, transportation logistics and planning, locational choice, impact analysis
 Ortwin Renn, Ph.D.: technology assessment, risk analysis and management, environmental psychology
 Harry Schwarz, B.C.E., P.E.: water resources engineering, water planning and policy, hydrology, environmental planning
 Don Shakow, Ph.D.: resource economics, regional development, energy analysis

PROGRAM

Environment, Technology and Society (ETS) is an interdisciplinary program which emphasizes policy questions involving the environment and the use and misuse of science and technology. The goal of the program is to enable individuals to deal with technical issues in a social and political context and to do so with an acute awareness of the short- and long-range limitations of the natural environment. The ETS Program offers an undergraduate major, a master of arts degree in environmental affairs or in technology assessment and risk analysis, and a self-designed Ph.D. Participating faculty are drawn from a number of departments and disciplines and have research interests in a wide range of societal problems including environmental science and management, energy and technology policy, and assessment and control of technological hazards. Faculty interests, which are focused on both the developed and developing world, offer students the chance to participate in research.

When it began in 1984-85, the ETS Program combined and enhanced long established programs in Environmental Affairs and Science, Technology, and Society. Graduates of these programs have taken positions in private industry, environmental foundations, and government doing work that involves policy analysis and formulation, planning, risk analysis, and environmental impact assessment. Students also have gone on to other graduate fields or have pursued careers in professions such as medicine or law.

UNDERGRADUATE MAJOR

The degree requirements for an undergraduate ETS major are designed to ensure that students acquire a firm foundation in natural science with considerable exposure to social science/public policy perspectives. Achieving literacy in natural science is especially important for two reasons. (1) many significant problems are accessible only with a thorough grounding in natural science and (2) there is a significant need for managers of science, technology, and environment whose technical background is more than perfunctory.

Accordingly, the requirements for the undergraduate ETS major emphasize natural science and mathematics. Requirements are indicated in the following table.

REQUIREMENTS FOR THE MAJOR

(a) Basic literacy in natural science

- 6 semesters in one discipline of natural science (physics, chemistry, biology, mathematics/computer science)
- 2 additional semesters in another natural science
- 2 semesters of mathematics/computer science, one of which must be calculus
- 2 semesters in an additional natural science if 6 semesters of mathematics/computer science are selected.)

(b) Basic literacy in social science

2 semesters of basic social science (economics, government, geography, management)

(c) ETS courses

1 introductory course

2 theory and methods courses

2 problem-oriented courses

1 semester course equivalent of capstone research involving a thesis and/or a research project.

Students should note that ETS courses crosslisted by natural and social science departments may not be used to meet the basic literacy requirements in natural and social science.

ETS majors are encouraged to strengthen their educational experience by working in academic year internships and/or paid summer jobs related to their goals and interests. These positions are often obtained with the advice and assistance of the program committee, whose members have contact with numerous organizations. Examples of placement in recent years include the Town of Holden Conservation Commission, the Massachusetts Energy Office, the Scientists' Institute for Public Information, the Central Massachusetts Regional Environmental Council, the Massport Office of Noise Control, the Central Massachusetts Air Pollution Control District, and the Massachusetts Office of Coastal Zone Management. Internships are encouraged and may substitute for one of the problem-oriented courses. All student programs must be specifically approved by the undergraduate adviser.

The ETS Program also seeks to facilitate the involvement of undergraduates in faculty research. Much of this research is housed in the University's Center for Technology, Environment and Development (CENTED); the remainder is located in participating departments. Detailed, up-to-date information on research opportunities is available from individual program committee members and from the program office.

Honors in Environment, Technology and Society are awarded upon presentation and oral defense of an undergraduate thesis. Students who wish to receive honors must have attained at least a 3.0 grade point average in ETS-required courses by their junior year and are encouraged to begin work the following summer on a project or internship that can be extended into a thesis during the senior year.

INTEGRATED B.A./M.A. DEGREE

Because an undergraduate liberal arts education, even with an ETS major, leaves only a modest amount of time for intensive study of ETS subject matter, the program offers an integrated B.A./M.A. option involving a total of five years of study. Under this plan, students complete an undergraduate major in the first four years and an M.A. degree during the fifth.

Majors in any undergraduate field are acceptable for the M.A. degree. ETS majors are admitted to the B.A./M.A. program without additional requirements. Majors in other disciplines must supplement departmental requirements with a number of preparatory courses, as shown in the table below. The preparatory courses in most instances count as part of the "extended major" requirements of various departments and thus are not difficult to satisfy. With approval of the graduate adviser, students in the combined B.A./M.A. program may count toward the graduate requirement any 200-level undergraduate courses completed with a grade of B- or better.

A request for admission to the combined B.A./M.A. program is normally made to the program chair during the junior year and will be granted if the student presents an acceptable program of undergraduate study and a cumulative average of B- or better. Students who wish to plan their B.A./M.A. program are advised to

consult the ETS graduate brochure available at the program office. This brochure lists sample five-year B.A./M.A. programs based on a range of undergraduate majors.

ETS AND PREPROFESSIONAL PROGRAMS

ETS may be an attractive major for students planning to continue in professional schools. The basic reason for this is that many of the requirements are the same.

Premedical and predental program.

Students in these programs must fulfill the following requirements:

- (1) a year of introductory biology,
- (2) a year of introductory chemistry,
- (3) a year of organic chemistry,
- (4) a year of physics, including laboratory,
- (5) a year of English,
- (6) a year of calculus, and
- (7) a year of psychology.

Most of these required courses can be used to meet the ETS major requirements. More information is available in a special premedical program booklet, available from the Office of Career Services. Also, read the section in the introduction of this catalogue.

Prelaw program.

Students in this program have no fixed requirements, but it is generally important to have a number of courses in English and government to develop communication skills. More information is available from members of the Prelaw Advisory Board and the Prelaw Handbook available at the Office of Career Services.

GRADUATE STUDIES

MASTER'S DEGREE

The master's degree in ETS is not primarily an extension of liberal arts at the undergraduate level. Rather, it is an effort to train individuals who can go directly from Clark into problem-solving jobs in the areas of environmental policy, and technology assessment and risk management. In this sense, an ETS graduate degree is a preparation for a profession.

Two master of arts degrees are offered. The M.A. in environmental affairs trains students for entry-level professional positions in the expanding fields of environmental planning, management, and education. The M.A. in technology assessment and risk analysis trains students in evaluating the benefits and hazards of technology and may lead to further graduate work or entry level positions in the fields of environmental and occupational health and safety.

Ten course units are normally required for a Master's Degree. These are earned through a combination of classroom courses, research apprenticeships, and theses. Because of limited faculty resources for formal course offerings, graduate students should accomplish a significant portion of their learning through research apprenticeships. Emphasis on research is also consistent with the goals of the program: to prepare students for problem-solving jobs. The program has the following formal requirements:

(1) *Core Curriculum.* Students must take four semesters of the ETS graduate core curriculum, including:

- ETS 226: Risk Assessment and Hazard Management
- ETS 250: Technology Assessment

- (2) *Research Participation*. Students must take at least two semesters of research, one of which must be in a different area than the M.A. thesis. To complete this requirement, students should sign up with individual faculty under the designations:

ETS 3992: Directed Research

ETS 3993: Thesis Research

- (3) *Electives*. Four electives must be chosen from other courses offered by the ETS Program and related departments and programs.

- (4) *Comprehensive Examination*. Students must successfully pass at the M.A. level a written and oral qualifying examination on the core curriculum. Normally given in May, after the completion of the spring semester, this examination is intended to test the breadth of the student's knowledge in the subject matter of the core curriculum, and should be completed before beginning thesis work.

Students from other institutions or from Clark are admitted to the master's program upon application to the program office. Clark students who have been previously admitted to the integrated B.A./M.A. program, and who complete the requirements for this program, may count any two 200-level courses, internships, or research projects towards the ten-course requirements of the M.A. degree. These courses must have approval of the graduate adviser and must be completed with a B- or better. Students from other institutions may be given credit for two advanced courses if these would have met the requirements for Clark students.

PH.D. DEGREE

A self-designed Ph.D., administered by a multidisciplinary Faculty Committee chosen individually for each student, is available. Interested applicants should contact the chair of the ETS Program, indicating their specific goals. A detailed description of the Ph.D. program appears in the ETS graduate brochure available from the Program Office.

INTRODUCTORY COURSES

101 INTRODUCTORY CASE STUDIES/Lecture, Discussion

Introduces the student to technology assessment and environmental policy via a series of illustrative cases, drawn from population and food, land and water resources, energy systems, pollution control, technology assessment, and arms control. Both writing and quantitative methods are emphasized so that students will become aware of the multidisciplinary approach needed in analysis of the cases. The course can be taken for Verbal Expression credit.

Ms. Brown, Mr. Renn, Staff

Offered every semester

102 INTRODUCTION TO THE GLOBAL ENVIRONMENT/Lecture, Discussion

Provides an overview of the physical and humanistic components of major global environmental problems — world food supplies, tropical deforestation, acid rain, ozone layer destruction, and land degradation. Students are introduced to the major biogeochemical cycles, interactions of the atmosphere and hydrosphere, and measureable trends in global ecology. Poverty, world health, population trends, and the roles of science and technology are examined as factors in, and products

of, the global environment.

Ms. Emel

Offered every year

103 ENVIRONMENT 198_/Lecture, Discussion

An assessment of major environmental issues, both national and global in nature, confronting human society in the current year. Particular attention is paid to problems requiring governmental action: rapid population growth, hazardous chemical wastes, long-term planning, and world water shortages. The interplay between environmental change and public policy is stressed. Intended for those desiring introductory or general knowledge.

Mr. Kasperson

Offered every year

105 ECONOMIC PROSPERITY AND ENVIRONMENTAL QUALITY IN EUROPE/Seminar

The focus of this course will be on the conflict between economic development and environmental quality during the early phases of industrialization in Europe and its repercussions in modern economy and environmental policies. The course is offered as a seminar course for the May term in Luxembourg.

Mr. Renn

Offered occasionally

THEORY AND METHODS

109 SCIENCE AND SOCIETY WRITING SEMINAR/Seminar

This writing seminar is intended for students who are interested in how people interact with complex technologies or with complex natural systems, and who wish to develop skills in using nontechnical language to describe and analyze technical subjects. Each year the seminar concentrates on a particular topic of current interest. Students write papers that — after integration and editing in the seminar — may be published as part of the *ETS Review*. Past topics have included the Challenger accident and testing for AIDS.

Mr. Goble

Offered every year

115 HYDROLOGY/Lecture

Provides an overview of the hydrologic cycle and its major components including precipitation, evapotranspiration, soil moisture, surface water runoff, and groundwater flow. The course focuses upon the role of water as a unifying concept of environmental science.

Staff

Offered every year

142 ENVIRONMENTAL CHEMISTRY/Lecture, Laboratory

Focuses on the chemistry related to environmental problems, particularly aquatic chemistry and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 102. Three lectures and one four-hour laboratory per week.

Mr. Greenaway

Offered every year

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT/Lecture

Reviews political and economic problems associated with such natural resources as agricultural land, energy goods, and minerals — as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market economy, the potential role of international cartels in resource allocation, and the assessment of nuclear

generation from an economic standpoint.

Mr. Shakow, Staff

Offered every other year

157 TECHNOLOGY AND SOCIAL CHANGE/Lecture, Discussion

This course focuses on the interaction between technology and society. Among the topics considered are: the nature of technology and its relationship to society; historical and contemporary case studies of the impact of technology; the nature of technological failures; and forecasts of how technology may change society by the year 2000.

Mr. Mitchell

Offered every year

175 SCIENCE, DECISION MAKING, AND UNCERTAINTY/Lecture, Workshop

An examination of decision making under conditions of scientific uncertainty. The goal of the course is to describe: (1) strengths and limitations of scientific analysis in the assessment of environmental and technological issues, and (2) methods designed to aid decision making under uncertainty. Initial emphasis is on the structure of scientific knowledge, ways of knowing, and types of scientific uncertainty, with examples drawn from particle physics, chemistry, engineering, epidemiology, and opinion research. Case studies of environmental and technological risk management take these issues into the "real world." Weekly workshop includes practical exercises in statistical treatment of data, fitting data to a form, calculation of uncertainty, interpretation of epidemiological data, and computer simulations of dose-response models and multicompartamental kinetic models.

Ms. Brown

Offered every year

210 SOCIOENVIRONMENTAL IMPACT ANALYSIS/Lecture, Discussion

Provides an overview of the theories, methods, and models used in assessing the social and environmental effects of planned development. Attention is given to both empirical and ethical issues and to developed and developing world contexts. Cases are analyzed in terms of the available policy and institutional means (such as social impact statements), as well as the critical literature on the subject. The goal is to equip students with both analytical skills and a critical perspective necessary to evaluate the social aspects of major projects and facilities.

Mr. Kasperson

Offered periodically

212 ENVIRONMENT AND SOCIETY/Lecture, Discussion

A central theme of this course is to analyze the relationship between human societies, especially those that are industrialized, and the natural environment. Among the topics to be considered are: the impact of industrialization on nature, the population-resource debate, the rise of modern environmental concern and political action, and pesticides and energy policy issues.

Mr. Mitchell

Offered every year

216 ENVIRONMENTAL IMPACT ASSESSMENT/Lecture

Analysis and evaluation of impacts of federal programs and projects in interrelated physical and social components and dynamics of the human environment. Methodological as well as conceptual requisites for the interdisciplinary analysis and evaluation of impacts are discussed. Special emphasis is given to the management of the assessment team as a key factor in meeting the environment goals of impacts assessment under the National Environment Policy Act of 1969 (NEPA). Relevant case studies are selected from a wide variety of domestic and international programs.

Staff

Offered periodically

226 RISK ASSESSMENT AND HAZARD MANAGEMENT/Seminar

For advanced students, an introduction to the theory and methods of risk assessment and the management of environmental hazards. Major theories and approaches are defined and evaluated. Papers and presentations are required. ETS 226 is part of the core curriculum for ETS graduate students.

Mr. Kasperson, Mr. Renn

Offered every year

250 TECHNOLOGY ASSESSMENT/Seminar

This course focuses on methods and techniques presently used to assess and evaluate the consequences of technologies. We will define the term "technology assessment" and investigate the use of the term in various contexts. Case studies are presented. This course is part of the core curriculum for ETS graduate students.

Mr. Renn

Offered every year

251 LIMITS OF THE EARTH/Seminar

This course is a systemic review of the data and the quantitative methods that can be used to project changes in populations, resource bases, and environmental cycles. Student papers and presentations for the development of each are required. This course is part of the core curriculum for ETS graduate students.

Mr. Goble, Mr. Hohenemser

Offered every year

252 LOCATING HAZARDOUS FACILITIES/Seminar

This seminar provides a problem-oriented forum to study siting hazardous facilities. The course includes a review of the theoretical foundations that relate to facility location decisions, including discussions of efficiency and equity issues; an evaluation of analytical methods that have or can be applied to this policy decision problem; and a critical analysis of specific facility location case studies. The course consists of lectures, "hands-on" problem analysis, and focused class discussions.

Mr. Ratick

Offered every year

258 RISK PERCEPTION/Seminar

Based upon the theories of object perception in cognitive psychology, we investigate the intuitive mechanisms of people to collect and assimilate information about activities and events with uncertain outcomes. Discussions focus on various coping strategies in handling risky situations and on the cognitive patterns related to the assessment of uncertain events. Students should have basic knowledge in ETS and/or psychology.

Mr. Renn

Offered periodically

265 QUANTITATIVE METHODS IN RISK ANALYSIS/Seminar

For advanced students, an introduction to quantitative methods in risk analysis, including fault-free analysis, dose-response models, risk benefit analysis, cost-effectiveness analysis, and quantitative methods for risk comparisons. Applications to auto accidents, nuclear power, cigarette smoking, and radiation health effects. This course is part of the core curriculum for ETS graduate students.

Ms. Brown

Offered every year

270 DECISION ANALYSIS FOR ENVIRONMENTAL MANAGEMENT AND EVALUATION/Seminar

This course focuses on the main concepts and methods presently used to generate and evaluate options for addressing and resolving environmental problems. Topics include the theoretical foundations of decision making, and the theory and techniques of classical decision analysis and multiattribute decision theory. The

course is designed for students with an interest in decision and policy making. Most applications discussed are related to environment or technology in developed or developing countries.

Mr. Renn

Offered periodically

351 RESOURCE GEOGRAPHY: THEORY AND METHOD/Seminar

Examination of major theories and methods of resource estimation, allocation, and management, providing coverage of the scholarly literature of the field.

Ms. Emel

Offered every other year

COURSES ON ENERGY PROBLEMS

130 ENERGY SYSTEMS, ECONOMICS AND POLICIES/Lecture

An introduction to the subject of energy for ETS majors and others interested in the utilization of fossil fuels, solar and wind power, geothermal energy, and nuclear fission and fusion. Emphasis is placed on basic concepts, thermodynamic principles, efficiency of use, economic principles of the energy market, and energy policies. The course provides the necessary background for those planning more detailed study of energy technology and/or policy.

Mr. Davies

Offered every other year

COURSES ON HEALTH AND HAZARD PROBLEMS

120 THE NUCLEAR AGE/Lecture, Discussion

An examination of the nuclear age in broad comparative perspective. The goal of the course are: (1) to describe the scientific and historical roots of nuclear technology, and (2) to discuss current dilemmas and nightmares. The emphasis throughout is on the rapid, often surprising growth of technology in the context of slowly developing political and social institutions. Initial focus is on the intellectual roots of nuclear physics (1700-1913), the "golden age" of nuclear physics (1913-1939), and nuclear physics in war (1939-1945). The main body of the course addresses the nuclear arms race and the search for arms control in the context of U.S.-Soviet relations, the rise of nuclear power and the controversies surrounding it, and the development of nuclear medicine. Students are asked to make their own evaluation of nuclear issues in defense, energy generation, and medicine.

Mr. Hohenemser

Offered every year

232 SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH/Lecture, Student Presentation, Discussion

Content varies from year to year. For advanced undergraduate and graduate students who have completed Biology 109 and at least one year of college chemistry. Permission of instructor required.

Mr. Reynolds

Offered every other year

234 HEALTH AND DISEASE IN THE AMERICAN HABITAT/Discussion

Based on readings drawn from medical and historical geography, biological science, and the history of American medicine and public health, this course takes a synoptic view of concepts and practice concerning health and disease as a form of environmental cognition and management. Discussion topics range from the changing disease environments of early New World migrants and inhabitants to present-day concerns over environmental health hazards, but emphasis is on our societal interactions with urban-industrial disease environments in the last hundred years and the intellectual consequences.

Mr. Koelsch

Offered every year

235 ENVIRONMENTAL HEALTH/Lecture, Discussion

Principles and approaches used during the management of selected problems in environmental health: risk assessment, environmental toxicology, drinking water standards, waste treatment practices, and occupational health. Prerequisite: permission of the instructor. Students need not be biology majors but must be juniors, seniors, or graduate students who can demonstrate literacy in one or more of the basic sciences and a relevant background.

Mr. Reynolds

Offered every other year

241 ENVIRONMENTAL TOXICOLOGY/Lecture, Discussion

Focus is on the assessment of hazardous properties of toxic chemicals in the environment and on development of public health policy. The first part covers the principles of absorption, distribution, excretion, and toxic action of chemicals on humans; animals testing; and human epidemiology. The second part covers assessment of public health risks on the basis of animal and human test results, development of standards for air and water contaminants, and uncertainty in regulating hazardous chemicals.

Ms. Brown

Offered every other year

246 CANCER: SCIENCE AND SOCIETY/Seminar

The focus is on one of the most dreaded diseases in modern society: cancer. In the first part, the course considers geographic distribution in this country and the world, factors contributing to its formation, and the biologic mechanisms underlying cancer. The course then concentrates on screening techniques for detecting cancer-causing agents and on methods for assessing and regulating cancer risks to humans. The third part focuses on case studies of selected human carcinogens as well as social and political controversies surrounding this disease.

Ms. Brown

Offered every other year

248 HAZARDS OF THE WORKPLACE/Lecture, Discussion

Surveys the trends and extent of occupational hazards in the United States and inquires into the adequacy of current data bases, public policy, and managerial effort. Attention is given to the performance of corporations, OSHA, labor unions, workers' compensation, and approaches to worker protection. Some cross-national comparisons are included. Alternatives to current managerial approaches are defined and discussed.

Mr. Kasperson

Offered every other year

286 ARMS CONTROL SEMINAR/Seminar

Contemporary forms of military technology pose special and enormously challenging problems in the interaction between society and technology. This seminar provides an opportunity for a detailed analysis of some of these problems at an advanced undergraduate level, concentrating on a particular technology or group of technologies. After a close examination of the technical properties of the technology, the seminar considers the mechanism in society for technology assessment, and studies the military policy and other social policy issues posed. Prerequisites : previous study of nuclear weapons technology and/or military policy, and permission of instructor.

Mr. Goble

Offered every other year

COURSES ON ENVIRONMENT AND RESOURCE PROBLEMS

159 VALUES IN SCIENCE AND TECHNOLOGY/Lecture

The course is a joint venture of the Art History Department and ETS Program. The

purpose is to educate students in the history of art by studying analytical texts and artistic interpretations of the changes that technology triggers in society. The course can be taken for a value perspective.

Ms. Grad, Mr. Renn

Offered every year

182 POLITICS, PEOPLE AND POLLUTION/Lecture, Discussion

Environmental problems and issues arise from economic development processes in both the industrialized and developing countries. What are the facts, and what are the myths, in a consideration of environment and development? How do we establish policies for dealing with these problems? What are the processes by which governments make decisions addressing complex environmental developmental issues here and in distant parts of the world? This course offers students an opportunity to examine the relations between environment and development in the context of developing and industrialized societies.

Ms. Thomas, Mr. Schwarz

Offered every other year

222 SEMINAR IN RIVER BASIN PLANNING/Seminar

Concentrates on one river basin and the studies made and plans prepared to develop that river basin. Students work independently on specific sections of the case under consideration. Seminar sessions give participants the opportunity to present their independent work and discuss it in a broader context. Readings, discussions, and research focus on study objectives, techniques, and results, and relate to the appropriate economic and social values.

Mr. Schwarz

Offered every other year

231 POLITICS AND THE ENVIRONMENT/Seminar

Intended for the student with professional career or advanced study objectives, and organized around current research themes on selected policy issues. Each of these is treated in a two week period which includes a state-of-the-art assessment, case applications, and a short student position paper on an assigned question. Representative issues include the environmental movement, models of the policy process, mediation of environmental conflicts, the politics of risk, and the role of the mass media. Permission of instructor required.

Mr. Kasperson

Offered every other year

256 PROBLEMS IN WATER RESOURCE PLANNING/Problems Course

Water resources planning techniques; water resources engineering; economic, social, and environmental topics are reviewed and applied in a realistic planning exercise. Students working in groups prepare, for a selected region or river basin, a preliminary planning document that could be used as a guide for future detailed planning. Emphasis is on the preparation, and the written and oral presentation, of the planning document in a professional manner that would be acceptable in the real world. Prerequisite: a 200-level course in environmental assessment, physical geography, economics, or environment, technology and society, or permission of instructor.

Mr. Schwarz

Offered every other year

260 PHYSICAL CLIMATOLOGY/Lecture

Provides an in-depth background to physical climatology. Basic principles of energy transfer occurring at the earth's surface are developed, including solar radiation, longwave convection, conduction, and evapotranspiration. These are then applied to a series of environmental systems relevant to humans, including

agricultural crops, natural vegetation, snow and ice, and urban climates. Prerequisite: Geography 122 or permission of instructor.
Staff Offered every year

271 GROUNDWATER RESOURCES: AN INTRODUCTION TO GROUNDWATER HYDROLOGY AND MANAGEMENT/Lecture, Discussion

An introduction to both the geological and hydrological factors controlling the occurrence and development of groundwater and the methods and impacts of groundwater management.
Ms. Emel Offered every year

275 CITIZEN PARTICIPATION: THEORY AND APPLICATION/Lecture, Discussion

Erosion of public confidence in the institutions and professionals charged with managing societal affairs has brought proposals that decision making be conducted more openly and with fuller citizen participation. This course explores a range of issues surrounding this theme. Major theories regarding the nature, goals, and forms of participation are examined, and contemporary experience with participatory programs is reviewed.
Mr. Kasperson Offered every other year

DIRECTED READING AND RESEARCH

296 REMOTE SENSING PROJECT WORK/Lecture, Laboratory

A more detailed consideration of the use of remote sensing for environmental analysis, particularly land use. Includes field work and a class remote sensing project.
Mr. Steward, Mr. Eastman Offered every year

297 CAPSTONE RESEARCH/Seminar

A required course for senior ETS majors, this seminar offers an opportunity to integrate the strands of the ETS major and /or to prepare a research proposal for a master's thesis. Specific topics for investigation are chosen largely on the basis of student interest, from a broad array including global environment threats, energy and other resource issues, arms control and disarmament, and technological risk assessment and management. Unlike a regular course, student presentations constitute a major portion of class meetings, with the instructor as a facilitator of discussion and as a general resource for the group. Students must be seniors or second semester juniors, and must have completed a substantial fraction of their major requirements.
Mr. Hohenemser, Staff Offered periodically

298 DIRECTED READINGS

Offered to undergraduate students who want to pursue a specific topic on their own, with tutorial assistance by a faculty member. By permission only.
Staff Offered every semester

299 RESEARCH AND THESIS

Offered to students who want to conduct research under the guidance of faculty. The product of the research may be an undergraduate thesis acceptable for honors in Environment, Technology and Society, or it may have another product, to be defined by the student and faculty tutor. By permission only. Variable credit.
Staff Offered every semester

348 RESEARCH IN HAZARD MANAGEMENT/Seminar

Advanced research in the theory and analysis of hazard management, with particular attention to decision making and political conflict.

Mr. Kasperson

Offered periodically

398 DIRECTED READINGS AND RESEARCH

Offered to graduate students who want to pursue a specific topic on their own, under the supervision and guidance of a faculty member. By permission only. Variable credit.

Staff

Offered every semester

399 MASTER'S THESIS

Staff

Offered every semester

Foreign Languages and Literatures

DEPARTMENT FACULTY

Michael K. Spingler, Ph.D., *chair*: French theater and film, comparative drama, translation

Michiko Aoki, Ph.D.: Japanese language and culture

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, classical mythology, classical art and archaeology

Marcia Butzel, Ph.D.: French and Italian film theory, cultural studies, French narrative

María Acosta Cruz, Ph.D.: Spanish-American literature, Baroque literature, post modern literature, comparative literature, contemporary literary theory

Carol C. D'Lugo, Ph.D.: Spanish and Spanish-American narrative, literary theory

Marvin A. D'Lugo, Ph.D.: Hispanic literature and film, narrative theory

William Ferguson, Ph.D.: Spanish Golden Age literature, twentieth-century Hispanic literature

Everett Fox, Ph.D.: Hebrew Bible, Midrash, Jewish ritual and folklore, classical Jewish thought

Kenneth Hughes, Ph.D.: nineteenth- and twentieth-century European literature, comparative literature, literary theory

Hartmut Kaiser, Ph.D.: German language and literature, German romanticism, the fairy tale, relations between music and literature

Dorothy Kaufmann, Ph.D.: French feminism, literatures and existentialism, European novel, French and Francophone cultural studies

Homayoun J. Mazaheri, Ph.D.: French language and literature

Tatyana K. McAuley, Ph.D.: Russian and Czech languages and literatures, Old Russian literature, nineteenth- and twentieth-century Russian literature, Russian culture

Constance M. Montross, Ph.D.: Spanish-American literature

Gale H. Nigrosh, Ph.D.: sociolinguistics, the theory and practice of foreign language teaching, the development of written discourse (on leave)

Raylene O'Callaghan, Doctorat d'Université: the Nouveau Roman, Linguistics, contemporary French literature, experimental narrative

Elizabeth O'Connell, Ph.D.: Spanish-American Literature, Latin American women writers

Walter Schatzberg, Ph.D.: age of Goethe, German expressionism in literature and the arts, German cinema, relations of literature and science

Catherine C. Quick Spingler, M.A.: French language and literature

EMERITI

Karl J. R. Arndt, Ph.D.: German

Raymond E. Barbera, Ph.D.: Romance languages

J. Fannin King, M.A.: Romance languages

J. Richard Reid, Ph.D.: Romance languages

UNDERGRADUATE PROGRAM

The Major in Foreign Languages and Literatures

The major in foreign languages and literatures concentrates particularly on the way in which nations may express the consciousness of their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, and sociology in order to arrive at an understanding of the cultural traditions of other nations. The Foreign Languages and Literatures Department is part of the Alice Coonley Higgins School of Humanities.

Requirements

- 1) No fewer than eight courses above the intermediate level in one or more foreign languages of which at least one course must be *advanced topics* (designated as 199 in French, German, and Spanish).
- 2) At least one introductory-level course in literature or culture criticism, usually designated as 130 or 131.
- 3) At least half of the eight courses required for the major must be taken in residence at the Worcester campus.
- 4) A minimum of at least two units of course work taken in a Clark-sponsored or Clark-approved study abroad program, unless individual circumstances preclude it.
- 5) At least five related courses are to be selected by the student in consultation with a faculty adviser.
- 6) If the major program is concentrated in one language, a reading knowledge of a second language is strongly recommended.
- 7) At least one course in comparative literature is required as part of the five related courses.

The Advisory System

Although a rigid sequence of courses is not required, the department encourages consultation between students and faculty advisers. The advisory system aims to accomplish the following:

- 1) A program designed to enhance and reflect the student's scholarly growth.
- 2) A program that makes clear the relatedness between the different courses selected to fulfill the major. The adviser will assist the student in identifying certain areas of concentration (for example, cross-cultural studies, studies in literature, or film).
- 3) Timely identification of an area of concentration that will insure coherent progress towards the capstone, independent research, or honors project taken in the senior year.

HONORS IN FOREIGN LANGUAGES

A student wanting to take honors in a foreign language should choose a topic and adviser and apply to the department chair before the end of the student's junior year. At the student's discretion and with the adviser's approval, a student may register for an honors project, which will carry one unit of credit. The prerequisite for approval of the honors course is completion of at least one course in advanced topics (Language 199).

Once approval of the honors project is made by the chair, the adviser and the student will agree on the deadlines for the project's stages, but the department requires that a preliminary draft of the honors project be completed by the first Monday in April. A final version of the project is due one week before the last day of classes. A second reader, chosen by the student and the adviser, will participate in the final evaluation. In no case will honors be granted to any student who fails to meet *both* deadlines (although the project still qualifies for course credit and grade).

THE MAJOR IN COMPARATIVE LITERATURE

Comparative literature offers the student a program of studies in the formation and development of the Western mind as it is expressed through poetry, prose, drama, film, and related arts. Offered by the Department of Foreign Languages and Literatures, the program is by nature interdisciplinary and has strong ties with several other departments in the University. In addition to the core courses offered by the department in comparative literature and literatures in foreign languages (French, German, Hebrew, Russian, and Spanish), the student is encouraged to take courses in English, humanistic geography, psychology, and visual and performing arts. One of the special aspects of the program is the emphasis on developing in the student a working approach to the text combined with a critical approach. This may take the form of play production, seminars in translation of lyric poetry and drama, and supervised work in contemporary critical theory (i.e., relations between text and performance, spectator positioning, and reader response).

A distinctive feature of the program in comparative literature is the *Comparative Literature Colloquium*. The colloquium serves as the center within which students and faculty of the Comparative Literature Program meet to discuss issues related to the critical and theoretic approaches to literature and related arts. It is primarily a place for the sharing of ideas and perspectives that may originally have been developed within the context of a particular discipline or research topic. The colloquium frequently invites guests from outside the University, as well as other Clark departments, to make presentations and lead discussions.

STUDY ABROAD

For summer-, semester-, and year-long programs of study abroad in France, Germany, Spain, and Italy, contact the Office of International Programs.

ADVANCED FOREIGN LANGUAGE COURSES LISTED BY AREA OF CONCENTRATION IN THE FRENCH, GERMAN, AND SPANISH MAJORS

LANGUAGE COURSES

- French 120 *Ways of Writing, Ways of Speaking*
- French 135 *Translation Workshop*
- German 131 *Spoken and Written German*
- German 134 *Translation Workshop*
- Spanish 127 *Practice in Oral and Written Spanish*
- Spanish 137 *Advanced Oral and Written Spanish*
- Spanish 141 *Translation Workshop*

STUDIES IN LITERATURE

- French 131 *Readings in French Literature I: History, Genres*
French 132 *Readings in French Literature II: Themes, Problems*
French 150 *Adventures in Narrative in Modern France*
French 174 *Studies in Autobiography*
French 175 *Sartre, Beauvoir, Camus*
French 183 *Narratives of Modernity*
French 187 *Love in the French Literary Tradition*
German 116 *Hesse, Kafka, Mann*
German 130 *The Modern German Novel*
German 140 *Modern German Prose*
German 145 *The German Novelle*
German 156 *The Modern German Short Story*
Spanish 131 *Readings in Hispanic Literature I*
Spanish 132 *Readings in Hispanic Literature II*
Spanish 136 *Women in Hispanic Literature*
Spanish 138 *Hispanic Literature of Political Commitment*
Spanish 139 *Caribbean Fiction*
Spanish 145 *Hispanic American Short Story*
Spanish 160 *The Age of Cervantes*
Spanish 180 *Latin American Literature in Translation*
Spanish 181 *The Literature of Modern Spain in Translation*

STUDIES IN CULTURE

- French 136 *Studies in French Culture*
French 137 *Crisis and Culture in Contemporary France from the Occupation to Mitterand*
French 158 *The French-Speaking World*
French 191 *Television and Culture*
German 112 *The Fairy Tales of the Brothers Grimm*
German 168 *Music in German Literature and Thought*
German 186 *Weimar Culture in Literature, Film, and the Arts*
German 197 *The Faust Theme in Literature and Music*
Spanish 133 *Hispanic Themes*
Spanish 143 *Latin American Essay and Thought*
Spanish 146 *Spain at the Crossroads*
Spanish 207 *Field Work in the Hispanic Community*

STUDIES IN FILM AND THEATER

- French 160 *French Culture Seen Through Film: Jean Renoir*
French 163 *History of French Cinema: Before World War II*
French 165 *French Dramatic Expression: Play Production*
French 167 *French Cinema: The New Wave*
French 170 *The Modern French Theater: Experiments of the Avant-Garde*
German 127 *Dramatic Expression in German*
German 150 *The New German Cinema*
German 166 *German Drama from Lessing to Brecht*
Spanish 140 *Spanish Dramatic Expression: Play Production*
Spanish 147 *The Films of Luis Buñuel*
Spanish 148 *Introduction to Cinema in Latin America*
Spanish 149 *The Films of Carlos Saura*
Spanish 150 *Introduction to Cinema in Spain*

COURSES

- A. Classics**
- B. French**
- C. German**
- D. Hebrew**
- E. Italian**
- F. Russian**
- G. Spanish**

A. CLASSICS

Greek 101-102 INTRODUCTORY GREEK

Refer to course descriptions under Classics Program listings.

Mr. Burke

Offered every other year

Greek 103-104 INTERMEDIATE GREEK

Refer to course description under Classics Program listings.

Mr. Burke

Offered every other year

LATIN 101-102 INTRODUCTORY LATIN

Refer to course description under Classics Program listings.

Mr. Burke

Offered every other year

LATIN 103-104 INTERMEDIATE LATIN

Refer to course description under Classics Program listings.

Mr. Burke

Offered every other year

B. FRENCH

French 101-102 ELEMENTARY FRENCH/Lecture, Discussion

Designed for students with no background in French or up to two years of high school French. Students work on all four language skills (listening, speaking, reading, writing) with the aim of developing an active knowledge of French. Individual work is done in the language laboratory. In the second semester, students participate in a weekly conversation group with a native French speaker. No credit is given for French 101 until successful completion of French 102.

Staff

Offered every year

French 102.5 ADVANCED ELEMENTARY FRENCH/Lecture, Discussion

Designed as an entry-level course for students who have had more than two years of high school French or the equivalent but who are not yet ready for work at the intermediate level. The course emphasizes active communication through speaking and writing. Students participate weekly in small discussion groups with a native French teaching assistant and work individually in the language lab.

Staff

Offered every year

French 103 INTERMEDIATE FRENCH I/Lecture, Discussion

This course offers consolidation of basic skills in French for students who have completed French 102 or the equivalent. The course includes a systematic review and expansion of fundamental grammatical structures. Our aim is to develop skills in oral and written expression. There are weekly conversation groups with a native French speaker as well as individual laboratory work. Prerequisite: French 102 or equivalent.

Staff

Offered every semester

French 104 INTERMEDIATE FRENCH II/Lecture, Discussion

This course serves as a bridge between the basic skills courses and the advanced courses in language, literature, and culture. Greater emphasis is placed on the reading of literary and cultural texts. Our aim is to develop the ability to articulate ideas and to partake in meaningful discussions in French. Grammar review is based on the specific needs of the group as revealed by class work and compositions. There are weekly conversation groups with a native French speaker. Prerequisite: French 103 or equivalent.

Staff

Offered every semester

French 120 WAYS OF WRITING, WAYS OF SPEAKING/Lecture, Discussion

For students who have completed work at the intermediate level. This course is designed to increase communicative competence and especially to develop skills in writing French. Models taken from literature and the media are used as a basis for creative and critical expression. The aim of the course is to develop awareness of different registers and social levels of French and to strengthen both grammatical control and range of language use. Prerequisite: French 104 or equivalent.

Ms. Kaufmann, Ms. O'Callaghan

Offered every semester

French 131 READINGS IN FRENCH LITERATURE I: HISTORY, GENRES/Lecture, Discussion

An introduction to the analysis and understanding of French literary texts and their visions of the world and of the self. This course focuses on the literary structures and conventions that form the basis of different genres as they are expressed at different periods of history. Readings include a wide range of complete texts in prose, theater, and poetry.

Ms. O'Callaghan, Ms. Kaufmann

Offered every year

French 132 READINGS IN FRENCH LITERATURE II: THEMES, PROBLEMS/Lecture, Discussion

A study of representative fictional and dramatic texts in the French literary tradition, organized thematically. Introduces the student to the ways literature reflects a nation's cultural and intellectual experience. Prerequisite: One third-year-level course or permission of the instructor.

Ms. Kaufmann, Mr. Spingler

Offered every year

French 135 TRANSLATION WORKSHOP/Lecture, Discussion

Students work intensively on various texts (advertising, journalism, theater, film scripts, and fiction) exploring theory, techniques, and problems of translation. The emphasis is primarily on translation from French into English and stresses lexical and syntactic aspects of comparative style. Students become acquainted with the variety of texts an American professional translator might expect to work on, including film subtitling. Prerequisite: French 120 or permission.

Mr. Spingler, Ms. Butzel

Offered every other year

French 136 STUDIES IN FRENCH CULTURE/Lecture, Discussion

A cross-cultural course concentrating on the evolution of traditional French values, myths, and social institutions. We study the conventions and codes that determine and shape culturally based thought and perception. The course pays particular attention to the general question of ideology and representation as instruments of cultural placement and identity. Among the topics to be considered are the Gardens of Versailles and Napoleon III's redesigning of Paris as cultural texts that represent dominant political and social ideologies. Prerequisite: French 104 or equivalent.

Mr. Spingler

Offered every year

French 137 CRISIS AND CULTURE IN CONTEMPORARY FRANCE/Lecture, Discussion

An interdisciplinary historical analysis of France since 1940, using literature, social texts, and film. We focus on the Occupation; the French war in Algeria; consumer society and May '68; new cultural and artistic ideologies; Mitterrand and the ambiguities of "normalization." Prerequisite: French 136 or equivalent.

Ms. Kaufmann

Offered every year

French 150 ADVENTURES IN NARRATIVE IN MODERN FRANCE/Lecture, Discussion

A course that explores major experiments in writing and transformations in narrative forms in twentieth-century France. We examine the way in which these narratives have inscribed new insights into the individual self and its relation to the society, and new reflections on the functions of our texts, in interaction with a rapidly changing world. Readings are selected from the following authors: Gide, Proust, Sartre, Camus, Robbe-Grillet, Duras, Sarraute, Butor, Simon, and Roche. In addition, two film texts are studied.

Ms. O'Callaghan

Offered every other year

French 158 THE FRENCH-SPEAKING WORLD/Lecture, Discussion

An interdisciplinary analysis of the problematic role of the French language and the culture it represents in various parts of the world with emphasis on the Antilles, Algeria, and French-speaking Africa. Through literature, social texts, and film we explore such issues as bilingual colonialism; the question of *négritude*; the Algerian war; conflicts between indigenous and French social codes. Prerequisite: two courses at 130 or above, or permission of instructor.

Ms. Kaufmann

Offered every other year

French 160 FRENCH CULTURE SEEN THROUGH FILM: JEAN RENOIR

A close analysis of the cinematic aesthetic and narrative strategies of the films of Jean Renoir, one of the leading and most influential figures in French cinema. We pay particular attention to the way in which his films reflect French values and social history. Prerequisite: French 131 or 136 or permission.

Mr. Spingler

Offered every other year

French 163 HISTORY OF FRENCH CINEMA: BEFORE WORLD WAR II

A study of the major experiments and classical traditions of French cinema prior to 1940. Through close analysis of films, film scripts, criticism, and some film theory, the course emphasizes the development of film as an art and the importance of the cinema to French culture and society. Film screenings include the work of René Clair, Louis Delluc, Abel Gance, Man Ray, Fernand Léger, Germaine Dulac, Jean Vigo, Jean Cocteau, Jean Renoir, Jean Grémillon, and Marcel Carne. Taught in English and French sections. Prerequisite for students receiving French credit: two courses at the 130 level.

Ms. Butzel

Offered every other year

French 165 FRENCH DRAMATIC EXPRESSION:PLAY PRODUCTION/Lecture, Discussion

A workshop course using scene study as a way to help the student develop and refine skills in oral French through intensive practice in diction, phrasing, rhythm, and gesture. Close attention is also paid to the dramatic texts we study as theatrical works, particularly the way they function as representations of French cultural consciousness and identity. Prerequisite: French 120 or equivalent.

Mr. Spingler

Offered every other year

French 167 FRENCH CINEMA: THE NEW WAVE/Lecture, Discussion

Focuses primarily on the ground-breaking films of Jean-Luc Godard, which profoundly changed the "look" of contemporary cinema including American films. We view films by other members of the New Wave including François Truffaut, Louis Malle, and Claude Chabrol, but the course primarily explores how Godard's radical transformations of film form reflected the crisis in cultural and political consciousness in France in the 1960s.

Mr. Spingler

Offered every other year

French 170 THE MODERN FRENCH THEATER: EXPERIMENTS OF THE AVANT-GARDE/Lecture, Discussion

A study of the origins and developments of the avant-garde theater of France with particular emphasis on the staging of the plays. The course focuses on the theater since 1950, especially works by Ionesco, Beckett, Genet, and Arrabal. Also explores the affinities between these playwrights and the Dada and surrealist movements and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French.

Mr. Spingler

Offered every other year

French 174 STUDIES IN AUTOBIOGRAPHY/Lecture, Discussion

An exploration of the evolution of modes of subjectivity in French literature through major works of self-analysis and autobiography. For each writer, we explore the interplay between memory, self-creation, and narrative form as expressions of a particular sensibility in a particular historical period. Readings include Rousseau, Stendhal, Beauvoir, Sartre, Barthes, and Duras. Students are asked to write an autobiographical essay as part of their final project.

Ms. Kaufmann

Offered every other year

French 175 SARTRE, BEAUVOIR, CAMUS/Lecture, Discussion

A study of representative literary works of each writer in the context of his or her philosophical and political theories. We explore such questions as freedom and existential choice, the absurd, ideologies of revolt, and the aesthetics and ethics of *littérature engagée*.

Ms. Kaufmann

Offered periodically

French 183 NARRATIVES OF MODERNITY/Lecture, Discussion

Readings and discussions of selected narrative texts from the nineteenth and twentieth centuries. Works from several narrative forms such as the short story, the novel, the experimental short film, and the feature film are studied as examples of changing representations of "modern" social and psychological life. Particular emphasis is given to relating these narrative texts to the development of mass and artistic culture in France from the early modern to the postmodern period. Texts include fiction by Balzac, Flaubert, Zola, Gide, and films by Clair, Dulac, Bresson, Duras, Marker, and Godard. Prerequisite: two courses at the 130 level in French.

Ms. Butzel

Offered periodically

French 187 LOVE IN THE FRENCH LITERARY TRADITION/Lecture, Discussion

Through the historical examination of a tradition in French literature that has shaped Western notions of desire and love, we examine how these notions have been culturally produced and how they affect our fantasies and realities. Readings include *Tristan et Iseut*; Mme. de Lafayette, *La Princesse de Clèves*; Laclos, *Les Liaisons Dangereuses*; Flaubert, *Madame Bovary*; Duras, *Moderato Cantabile*.

Ms. Kaufmann

Offered every other year

French 191 TELEVISION AND CULTURE/Lecture, Discussion

An advanced course in the cultural study of television and related audiovisual media in France and the Francophone world. Readings in screen theory, cultural criticism, and social theory provide students with a conceptual framework for the analysis of French programming in regional, national, and international contexts. Prerequisite: two courses at the 130 level in French.

Ms. Butzel

Offered every other year

French 199 ADVANCED TOPICS TUTORIAL/Seminar

A research seminar involving close reading and independent research on various topics in literature and culture. Topics vary according to the instructor but are sufficiently wide ranging to allow the student to identify an area of personal interest. Required of majors.

Ms. Kaufman, Mr. Spingler

Offered every year

French 206 SPECIAL TOPICS IN FRENCH/Seminar

Offered for variable credit.

Staff

Offered every semester

French 299 FRENCH, GERMAN, SPANISH: SEMINAR IN FOREIGN LANGUAGE TEACHING-LEARNING/Seminar

This ongoing seminar is especially arranged for our foreign language teaching assistants. Its goal is to explore different theories of foreign language learning and the methods and strategies developed from them. Students draw upon their own experiences as teachers and learners in the foreign language classroom in order to evaluate the strengths of different instructional approaches and improve their own teaching skills. Joint sessions with faculty are scheduled at regular intervals.

Staff

Offered every year

C. GERMAN**German 8 BASIC GERMAN CONVERSATION I/Lecture, Discussion**

Introduces students to basic German conversational patterns through the use of the highly successful "Guten Tag" film series. Every class session is based on a film that presents conversational material in an authentic cultural context. Recommended for students who wish a short-term exposure to German language study as a transition to the regular program.

Mr. Schatzberg

Offered every other year

German 101-102 INTRODUCTORY GERMAN/Lecture, Discussion

Designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. No credit is given for German 101 until successful completion of German 102.

Mr. Kaiser, Mr. Schatzberg

Offered every year

German 103 INTERMEDIATE GERMAN I/Lecture, Discussion

This course offers consolidation of basic skills in German for students who have completed German 102 or the equivalent. The course includes a systematic review of German grammar and reading and discussion of selections adapted from German language newspapers and magazines. Our aim is to develop skills in oral and written expression. There are weekly conversation groups with a native German speaker as well as individual laboratory work. Prerequisite: German 102 or equivalent.

Staff

Offered every year

German 104 INTERMEDIATE GERMAN II/Lecture, Discussion

This course serves as a bridge between the basic skills courses and the advanced courses in language, literature, and culture. During the first half of the semester the systematic review of grammar is completed. Subsequently greater emphasis is placed on the study of selected literary works to acquaint students with major themes of contemporary culture in West and East Germany. Our aim is to develop the ability to articulate ideas and to partake in discussions in German. There are weekly conversation groups with a native German speaker as well as individual laboratory work. Prerequisite: German 103 or equivalent.

Staff

Offered every year

German 106 SPECIAL TOPICS IN GERMAN

Offered for variable credit.

Staff

Offered every semester

German 127 DRAMATIC EXPRESSION IN GERMAN

This course provides the more advanced student of the language with the opportunity to refine and practice the habits of gesticulation, intonation, and rhythm of contemporary spoken German. Under close supervision, the class studies and learns one or more contemporary plays with a view to eventual production or dramatic reading of the piece(s). Emphasis is placed on pronunciation, gesture, and the development of those intonational refinements appropriate to the interpersonal situations of the texts studied. Although discussion of the dramatic works as literature clearly is necessary, it should be noted that the course is essentially an advanced language course. Active participation of all students is required. Examination consists of the presentation of a dramatic passage that the student has prepared outside of class. Prerequisite: German 104 or equivalent.

Staff

Offered every other year

German 131 SPOKEN AND WRITTEN GERMAN/Lecture, Discussion

This third-year course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving students' ability to express themselves in writing. Literary and journalistic texts serve as a basis for discussion of important issues in contemporary German. Weekly written assignments. Recommended for majors. Prerequisite: German 104 or equivalent.

Mr. Kaiser

Offered every year

German 134 WORKSHOP IN TRANSLATION/Lecture, Discussion

Gives students a practical, concrete experience of what it means to "translate" from one language into another. The student sees that the process is not nearly so simple as it may have seemed, but that there is a scale of texts, which range from the relatively easy to those that virtually defy rendering into another tongue. In the more difficult cases, it is demonstrated that there is no such thing as a mere rendering of a text into another language, but that the process in, say, poetry, requires transposition of a whole cultural reflex into another. Various kinds of texts are examined, from the sober style of the scientific article to the emotionally charged language of lyric poetry. Prerequisite: German 104 or equivalent.

Mr. Hughes

Offered every other year

German 138 MODERN GERMAN DRAMA/Lecture, Discussion

German theater has acquired a remarkable richness and diversity over the last forty years. This course explores the changes and various trends as reflected in the works by East and West German, Swiss, and Austrian playwrights. Political concerns,

social issues, moral dilemmas, and aesthetic questions are discussed in our study examples of "Trümmerliteratur" (Rubble Literature), absurd drama, documentary theater, the folk play, and post-modern theater. Prerequisite: German 131 or permission of instructor.

Mr. Kaiser

Offered every other year

German 140 MODERN GERMAN PROSE/Lecture, Discussion

Designed to familiarize the student with prose—from West and East Germany—from Kafka, Hesse, Mann, Böll, Grass, Plenzdorf, and Wolf; including discussions, oral and short written reports in German. Prerequisite: German 104 or equivalent.

Mr. Hughes

Offered every other year

German 142 GERMAN ROMANTICISM/Lecture, Discussion

An analysis of German romanticism from its beginning in the 1790s to its decline in the 1830s, aesthetic credos, lyric poetry, the drama, major prose works (among them, the fairy tale as an art form) are discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers, Hölderlin, Novalis, Tieck, Wackenroder, Kleist, Brentano, E.T.A. Hoffmann, Eichendorff, and Heine. Prerequisite: German 104 or equivalent.

Mr. Kaiser

Offered every other year

German 145 THE GERMAN NOVELLE/Lecture, Discussion

A historical and critical study of this uniquely German genre. Particular attention is paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one hand and from the novel on the other. Selections range from early romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration are discussed. Prerequisite: German 131 or equivalent.

Mr. Hughes

Offered every other year

German 156 THE MODERN GERMAN SHORT STORY/Lecture, Discussion

After years of isolation and stagnation during the Nazi period and after its collapse in 1945, young writers, eagerly trying to establish new values and anxious to link up again with the international literary developments, discovered the English and American short story with its well established tradition and adapted this model to the historical, social, and cultural conditions in Germany. The short story became the most important literary form during the post-war years and has maintained its significance to the present time. This course involves a careful reading of representative examples by leading modern German writers with special emphasis on thematic variety and structural complexities of the genre. Prerequisite: German 104 or equivalent.

Mr. Kaiser

Offered every other year

German 166 GERMAN DRAMA FROM LESSING TO BRECHT/Lecture, Discussion

Includes reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. Focuses on the sociopolitical aspects of these works, the aims and concepts of the dramatic art, and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Büchner, Schnitzler, Kaiser, and Brecht. Prerequisite: German 104 or equivalent.

Mr. Kaiser

Offered every other year

German 206 SPECIAL TOPICS IN GERMAN

Offered for variable credit.

Staff

Offered every semester

GERMAN LITERATURE COURSES CONDUCTED IN ENGLISH

German 112 THE FAIRY TALES OF THE BROTHERS GRIMM/Lecture, Discussion

Fairy tales are among the oldest and simplest forms of literature. They communicate archetypal patterns of human experience and societal behavior; they reflect human wisdom of all ages derived from all cultures; their moral teaching is universal and universally applicable. The well-known collection of the Brothers Grimm includes 210 fairy tales; about half of them are studied using different approaches to textual analysis in order to acquaint students with a variety of critical methods. No prerequisites.

Mr. Kaiser

Offered every other year

German 116 HESSE, KAFKA, MANN/Lecture, Discussion

A study of selected works including Hesse's *Steppenwolf*, Kafka's *The Trial*, and Thomas Mann's *Death in Venice*. The focus of the course is on developing interpretations of individual works and contrasting the authors' literary techniques and world views.

Mr. Schatzberg

Offered every other year

German 130 THE MODERN GERMAN NOVEL/Lecture, Discussion

The course reviews selected works of Günter Grass, Hermann Broch, Thomas Mann, Heinrich Böll, Max Frisch, and other writers from the German language areas of East and West Germany, Austria, and Switzerland. Emphasis is not so much on the development of the twentieth-century novel as it is on understanding each of the works in its historical, social, and conventional context.

Mr. Hughes

Offered every other year

German 150 THE NEW GERMAN CINEMA/Lecture, Discussion

A study of selected films of contemporary German film directors, Fassbinder, Herzog, Kluge, Schlöndorff, and Wenders. The goal of the course is to examine the cinematic technique and world view unique to each director as well as German-American cultural cross-currents and relevant social issues as represented in the films under consideration. Students are expected to study the films, read selected critical writings, write short film critiques, and produce a substantial paper dealing with some aspect of New German Cinema. Students may take the course for German language credit by participating in a German language tutorial and reading selected works in German.

Mr. Schatzberg

Offered every other year

German 168 MUSIC IN GERMAN LITERATURE AND THOUGHT/Lecture, Discussion

Countless musicians, philosophers, and writers have speculated on the nature of music, its mysterious power to influence people and communicate strong feelings. This course is devoted to reading and discussion of works by the following authors from the German-speaking countries of the nineteenth and twentieth centuries: Wackenroder, Novalis, Kleist, Schopenhauer, E.T.A. Hoffmann, Goethe, Grillparzer, Heine, Mörike, Wagner, Nietzsche, Hesse, and Thomas Mann. The approach is predominantly thematic; however, several works are studied that reveal

the author's successful attempts to employ musical devices and structures in his literary creations. Conducted in English.

Mr. Kaiser

Offered every other year

German 186 GERMAN EXPRESSIONISM IN LITERATURE, FILM, AND PAINTING/Lecture, Discussion

Offers an interdisciplinary exploration of the modernist movement in German literature, film, and painting in the pre- and post-World War I period, 1910-1924. The following works and authors are studied within the cultural context of the period:

Drama: Wedekind, Kaiser, Toller

Prose: Benn, Döblin, Kafka, Musil

Film: *Caligari*, *Golem*, *Nosferatu*, *The Last Laugh*, *Warning Shadows*, *Metropolis*

Painting: *The Blue Rider*, *Die Brücke*

Lectures, discussions, and short essays are in German. Prerequisite: German 104 or equivalent.

Mr. Schatzberg

Offered every other year

German 188 THE CULTURE OF THE WEIMAR REPUBLIC IN LITERATURE, FILM, AND THE ARTS/Lecture, Discussion

Examines social and political satire and efforts at cultural regeneration between the First World War and the rise of Nazism. The following works are studied within the context of the period:

Prose: Hesse's *The Steppenwolf*, Döblin's *Berlin Alexanderplatz*, Remarque's *All Quiet on the Western Front*

Drama: Brecht's *A Man's a Man*, *St. Joan of the Stockyards*, *The Measures Taken*; Zuckmayer's *The Captain from Koepenick*

Musicals: *Rise and Fall of the City of Mahagonny*, *The Three Penny Opera* (Brecht/Weil)

Film: *M*, *The Blue Angel*, *The Three Penny Opera*, *Berlin Alexanderplatz*, *Kuhle Wampe*

Painting: Georg Gross, Max Beckman, Otto Dix

Architecture: The Bauhaus School

This course is conducted in English, but students may receive German credit by participating in a German language tutorial and reading selected works in German.

Mr. Schatzberg

Offered every other year

German 197 THE FAUST THEME IN LITERATURE AND MUSIC/Lecture, Discussion

A study of man's search for forbidden knowledge and power as represented in literature and music by the character of Faust from the Reformation to the present. The legend of the defiant necromancer who sold his soul to the devil emerged in the sixteenth century and developed into one of the great themes of Western literature. Faust is the representative of each age in which he appears. He may be a universal figure embodying the ideal man, as he does in Goethe's masterpiece; or he may be the incarnation of the sin characteristic of an age or a nation, as he is in Thomas Mann's *Doctor Faustus*. The course explores the changing concepts of Faust from the beginnings of the legend in German folklore to the present, concentrating on the following major treatments of the theme: *The History of the Damnable Life and Deserved Death of Doctor John Faustus* (1582), Marlowe's *Dr. Faustus*, Goethe's *Faust*, Part I and II, Thomas Mann's *Dr. Faustus*, and some of the

operatic treatments such as Gounod's *Faust*, Berlioz's *The Damnation of Faust*, Boito's *Mefistofele*, Busoni's *Doctor Faustus*. No prerequisites.
Mr. Kaiser
Offered every other year

German 199 ADVANCED TUTORIAL IN GERMAN LITERATURE/Lecture, Discussion

The content of this course is determined by the needs and interests of individual students. Ordinarily it is taken by majors in their senior year and as a capstone experience. Other advanced students of German language and literature may be invited to participate in the tutorials as space permits.
Staff
Offered every year

German 299 FRENCH, GERMAN, SPANISH: SEMINAR IN FOREIGN LANGUAGE TEACHING-LEARNING/Seminar

See Description under French 299.
Staff
Offered every year

D. HEBREW

Hebrew 101-102 ELEMENTARY HEBREW

Modern, conversational Hebrew. Emphasis on speaking, reading, writing, and listening skills. Acquisition of vocabulary and basic grammar through conversation, drills, reading of simple texts, and listening to tapes. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. No credit is given for Hebrew 101 until successful completion of Hebrew 102.
Ms. Nave
Offered every year

Hebrew 103 INTERMEDIATE HEBREW

A survey of significant texts of the biblical and post-biblical period. Enrichment and reinforcement of verbal expressions and grammatical structures. Classes meet three times weekly and are supplemented by individual work in the language laboratory and one hour of drill. Hebrew 102 or the equivalent required.
Ms. Nave
Offered every year

Hebrew 104 INTERMEDIATE/ADVANCED HEBREW

A survey of significant Hebrew texts of the pre-modern and modern periods. Literature and newspapers are employed. Enrichment of verbal and written expressions and grammatical structures. Classes meet twice weekly and are supplemented by individual work in the language laboratory and one hour of drill. Hebrew 103 or the equivalent required.
Ms. Nave
Offered every year

HEBREW LITERATURE/JUDAIC STUDIES COURSES CONDUCTED IN ENGLISH

Hebrew 117 INTRODUCTION TO THE HEBREW BIBLE I: NARRATIVE AND LAW/Lecture, Discussion

A close reading (in English) of the first half of the Hebrew Bible, Genesis through Kings II. Issues to be considered include: the rise of Israel against the background of the Ancient Near East, myth and history in the ancient world, biblical storytelling as an artistic and ideological form, and the world view behind biblical laws and rituals. Also discussed is the process by which the Bible took shape, in relation to ancient Israel's self-understanding. The tools of recent research in comparative religion, anthropology, archaeology, and literature are utilized. We also stress the

contribution of this literature to Western thought.

Mr. Fox

Offered every year

Hebrew 118 INTRODUCTION TO THE HEBREW BIBLE II: PROPHECY AND POETRY/Lecture, Discussion

A close reading (in English) of the poetic portions of the Hebrew Bible, from Isaiah through the Writings. The prophetic revolution in Israel is evaluated: its roots, its impact on its own society as well as on later social and cultural criticism in the West. The artistry of biblical poetry is analyzed, along with the thematics of piety, despair, resignation, and eroticism that are found in such books as the Psalms and the Song of Songs. Finally, books of a more philosophical bent (Ecclesiastes, Job), which question the earlier assumptions of biblical faith, are read. As in Hebrew 117, emphasis is placed on the influence of the Bible on later thinking in the West.

Mr. Fox

Offered every year

Hebrew 120 GREAT JEWISH LIVES/Lecture, Discussion

Jewish history viewed through the mirror of selected biographies. Using the medium of outstanding/unusual life journeys, some of them shrouded in legend, we examine key issues of specific periods: the conflict between two cultures, tradition in crisis, and the search for authentic self. Also considered are the roots of legend as a historical force. Figures to be encountered (which change each time the course is offered) include: the biblical prophet Elijah, rabbinical heretic Elishah ben Abuyah, medieval Spanish poet Judah Ha-Levi, seventeenth century false Messiah Sabbetai Zevi, pious woman autobiographer Glueckel of Hamelin, Hasidic master Israel ben Eliezer (the Baal Shem Tov), founder of political Zionism Theodor Herzl, and twentieth-century German-Jewish philosopher and teacher Franz Rosenzweig.

Mr. Fox

Offered every other year

Hebrew 122 WORKSHOP IN JUDAISM: SACRED TIME AND THE LIFE CYCLE/Lecture, Discussion

Using the tools of the history of religion and anthropology, this course treats the place of rituals of time in human life and in Judaism in particular. In general, the focus is on issues of myth and ritual, and on the cultural spread of forms. In the case of Judaism, topics include: early forms and sources, the development of the sacred calendar, the transformation of form and meaning of individual rituals, and parallels throughout the world. Special attention is given to recent Jewish religious expression, and to developments in the Jewish women's movement.

Mr. Fox

Offered every other year

Hebrew 123 THE MIDRASHIC TRADITION/Lecture, Discussion

An English language study of Midrashic literature, the primary Jewish literary expression after the Bible. Written down mainly during the Roman period, the texts comprise independent legends about supernatural beings, writings about biblical characters (filling in gaps in the biblical stories), traditions about the lives of the ancient rabbis, and wide-ranging statements about worldly wisdom, ethical values, and political reality. Sources are read with an eye toward what they reveal about ancient Jewish society, and in the light of recent work in folklore studies. A final unit considers later forms of Midrash, such as Hasidic and contemporary variations.

Mr. Fox

Offered every other year

Hebrew 127 MODERN JEWISH ETHICS/Lecture, Discussion

The course aims at conveying a working notion of Jewish law (*halacha*) and its many sources and at examining some contemporary problems in the light of what Judaism has to say about them. Distinction is made between *halacha* and ethics,

and between traditional and liberal interpretations of Jewish ethics. Current problems to be discussed include: issues of war and peace (e.g., pacifism and civil disobedience), medical issues (e.g., abortion, euthanasia, artificial insemination/surrogate parenting), and sexual ethics.

Staff

Offered every other year

Hebrew 130 SUFFERING AND EVIL IN JEWISH TRADITION/Lecture, Discussion

A central problem in Western religious thought is theodicy: how to explain the existence of suffering and evil in a world ruled by a supposedly benevolent God. The course examines a wide variety of Jewish sources on the problem, which propose a wide variety of answers. Central is the biblical book of Job and its interpretations through the centuries; at the other end of history, responses to the Holocaust are considered.

Mr. Fox

Offered every other year

Hebrew 185 MODERN JEWISH LITERATURE

Through the use of Yiddish and Hebrew literature in translation, this course surveys the creation of modern Jewish literature in the nineteenth and twentieth centuries. The pioneers of Yiddish literature (Mendele Mocher Seforim, Sholom Aleichem, Peretz) and Hebrew literature (Ahad HaAm, Bialik, Brenner, Frishman) are discussed.

Staff

Offered every other year

E. ITALIAN

101-102 ELEMENTARY ITALIAN/Lecture, Discussion

Designed for students with no previous study of Italian, aimed at acquisition of basic speaking, reading, and writing knowledge of the language. Three hours weekly plus laboratory practice. No credit is given for Italian 101 until successful completion of Italian 102.

Staff

Offered every year

Italian 103 INTERMEDIATE ITALIAN I/Lecture, Discussion

This course offers consolidation of basic skills in Italian for students who have completed Italian 102 or the equivalent. The course includes a systematic review and expansion of fundamental grammatical structures. Our aim is to develop skills in oral and written expression. Prerequisite: Italian 102 or equivalent.

Staff

Offered every semester

Italian 104 INTERMEDIATE ITALIAN II/Lecture, Discussion

This course places greater emphasis on the reading of literary and cultural texts. Our aim is to develop the ability to articulate ideas and to partake in meaningful discussions in Italian. Grammar review is based on the specific needs of the group as revealed by class work and compositions. Prerequisite: Italian 103 or equivalent.

Staff

Offered every semester

F. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross through the Worcester Consortium for Higher Education.

Russian 101-102 INTRODUCTORY RUSSIAN/Lecture, Discussion

An introduction to the written and spoken language. Three class periods and three laboratory sessions a week. No credit is given for Russian 101 until successful

completion of Russian 102.

Mr. Hughes, Ms. McAuley

Offered every year

Russian 103-104 INTERMEDIATE RUSSIAN/Lecture, Discussion

Advanced Russian grammar. Continued emphasis upon reading and conversation. Three class periods and three laboratory sessions a week.

Ms. McAuley

Offered every year

Russian 106 DIRECTED READINGS

Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian. Offered for variable credit.

Mr. Hughes

Offered every year

RUSSIAN LITERATURE COURSES CONDUCTED IN ENGLISH

Russian 185 THE RUSSIAN NOVEL IN THE NINETEENTH CENTURY/Lecture, Discussion

An examination of representative great Russian epics of the last century in English translation. They are considered both as works of literary art and as social and historical artifacts. Readings may vary depending on the availability of texts but will usually include Tolstoy's *Anna Karenina*, Dostoevsky's *The Brothers Karamazov*, Gogol's *Dead Souls*, Goncharov's *Oblomov* and Turgenev's *Fathers and Children*. Some reading in Russian intellectual history and in the "radical democratic" critics.

Mr. Hughes

Offered every other year

Russian 187 THE RUSSIAN NOVEL IN THE TWENTIETH CENTURY/Lecture, Discussion

A consideration of representative Russian novels of the twentieth century—in English translation—in their historical and social context. Readings may vary depending on the availability of texts but will probably include such pro-Soviet works of "socialist realism" as Gorky's *Mother* and Sholokhov's *Quiet Flows the Don*, experimental fiction like Zamyatin's *We*, and counterrevolutionary works such as Pasternak's *Dr. Zhivago*, Bulgakov's *Master and Margarita*, and Solzhenitsyn's *Cancer Ward*. Some reading in Russian intellectual history and in the formalist and Marxist critics.

Ms. McAuley

Offered every other year

G. SPANISH

Spanish 101-102 ELEMENTARY SPANISH/Lecture, Discussion

For students with no previous knowledge of the language, this course is aimed at developing basic skills in speaking, reading, and writing Spanish. The class meets for three hours per week; regular class assignments are supplemented by individual work in LARC (the Language Arts Resource Center). No credit is given for Spanish 101 until successful completion of Spanish 102.

Mr. D'Lugo, Mr. Ferguson

Offered every semester

Ms. D'Lugo, Ms. Acosta Cruz

Spanish 102.5 ELEMENTARY SPANISH: INTENSIVE/Lecture, Discussion

An accelerated elementary course, intended for students who have already begun the study of Spanish but who do not yet qualify for intermediate-level courses. Three hours per week, plus individual work in the Language Arts Resource Center.

Mr. D'Lugo, Ms. Montross, Staff

Offered every semester

Spanish 103 INTERMEDIATE SPANISH I/Lecture, Discussion

The first of the intermediate-level courses, Spanish 103 strengthens basic skills in the language through a variety of exercises, including taped interviews with native speakers, improvisational acting, and discussions centered around readings on Hispanic culture and society. Grammar review is geared to the specific needs of the group. Prerequisite: Spanish 102.

Ms. D'Lugo, Mr. D'Lugo, Mr. Ferguson

Offered every semester

Spanish 104 INTERMEDIATE SPANISH II/Lecture, Discussion

Normally taken after 103, Spanish 104 includes more extensive readings on Hispanic themes as the basis for class discussion and student essays. Emphasis is on activities in reading, writing, speaking, and conversational understanding as a preparation for more advanced work. Prerequisite: Spanish 103.

Ms. Montross, Staff

Offered every semester

Spanish 127 PRACTICE IN ORAL AND WRITTEN SPANISH/Lecture, Discussion

A transitional course between intermediate Spanish and the upper-level offerings, intended to help students develop fluency and sophistication in spoken and written Spanish. Classes emphasize practice in conversation, composition, and advanced grammar review. Prerequisite: Spanish 104.

Ms. D'Lugo, Staff

Offered every semester

Spanish 131-132 READINGS IN HISPANIC LITERATURE/Lecture, Discussion

An introduction to modern Hispanic narrative, lyric, and dramatic literature. The course covers representative authors of both Spain and Latin America; works are studied with a view to their literary, social, cultural, and political context. Readings are chosen to illuminate a particular theme that changes each semester: for example, the idea of cultural continuity and modernity, notions of norm and deviance in the Hispanic community, or the concept of revolution as a collective and individual ideal. Since course content is variable, students may elect to take the course twice (if they do so, the transcript will show credit for both Spanish 131 and Spanish 132). Conducted in Spanish. Prerequisite: Spanish 127.

Ms. D'Lugo, Mr. D'Lugo, Mr. Ferguson

Offered every semester

Spanish 133 HISPANIC THEMES/Lecture, Discussion

A third-year course designed to introduce the student to the diversity of Hispanic culture through a variety of readings from literature, history, and cultural anthropology, as well as current periodicals in Spanish. The course focuses on one or two of the following national cultures: Chile, Cuba, Mexico, Spain, Argentina. Topics normally covered include parallel development of Anglo-American and Hispanic cultural institutions, changing identity of the family and the individual in twentieth-century society, the emerging identities of women in these societies, and a comparison with the traditional Hispanic definition of women's role. Conducted in Spanish. Prerequisite: Spanish 131.

Mr. Ferguson, Ms. D'Lugo

Offered every year

Spanish 136 WOMEN IN HISPANIC LITERATURE/Lecture, Discussion

A study of the presence of women in Hispanic literature, with a special emphasis on the twentieth century. Topics to be discussed include alienation, identity, family structure, violence against women, and problematical relationships to the patriarchal social order. Readings include major works from both the Spanish and Latin American tradition. Conducted in Spanish. Prerequisite: Spanish 131.

Ms. O'Connell, Staff

Offered every other year

Spanish 137 ADVANCED ORAL AND WRITTEN SPANISH/Lecture, Discussion

An advanced language course that offers a rapid review of grammar with exercises in composition, pronunciation, and intonation. Conducted in Spanish. Prerequisite: Spanish 131 and two courses above that level.

Ms. Acosta Cruz, Staff

Offered every year

Spanish 138 HISPANIC LITERATURE OF POLITICAL COMMITMENT/Lecture, Discussion

A study of the creative writer's position *vis-à-vis* the demands of revolutionary change in the twentieth century. Writers discussed include Pablo Neruda, César Vallejo, Ernesto Cardenal, Francisco Ayala, and Miguel Hernández; Cuban writers and poets in their sometimes ambiguous relationship to their country's revolution; the writers of the Chicano movement and the dream of Aztlán; and Puerto Rican authors, both on the mainland and on their native island. Conducted in Spanish. Prerequisite: Spanish 131.

Mr. Ferguson

Offered every other year

Spanish 139 CARIBBEAN FICTION/Lecture, Discussion

Readings and discussions of selected works by the principal figures in Spanish-language fiction from the Caribbean Basin. Works studied are mostly from the nineteenth and twentieth centuries. Representative works from all genres are examined in order to review the literary expression and major concerns of Caribbean literature. Conducted in Spanish. Prerequisite: Spanish 131.

Ms. Acosta Cruz

Offered every other year

Spanish 140 SPANISH DRAMATIC EXPRESSION: PLAY PRODUCTION/Lecture, Discussion

Intended to acquaint the student with the rhythms, intonations, and gestures typical of contemporary spoken Spanish. Through the study and eventual presentation of two or more contemporary dramatic works, students gain practical experience in linguistic and cultural skills. Although some consideration is given to the texts as literature, the course is primarily a workshop in advanced oral Spanish. Prerequisite: Spanish 104.

Staff

Offered every year

Spanish 141 SPANISH TRANSLATION WORKSHOP/Lecture, Discussion

A course intended to enable students to translate a wide variety of texts (including commercial and technical documents) from Spanish into English, and vice versa. Classes alternate between formal sessions, in which basic linguistic theory is taught, and workshop sessions, in which students use the techniques learned to translate printed material. Prerequisite: Spanish 131.

Staff

Offered every year

Spanish 143 LATIN AMERICAN ESSAY AND THOUGHT/Lecture, Discussion

Readings and discussions of selected essays from the major writers in Latin America from the nineteenth and twentieth centuries. The course explores the ways in which Latin American writers have tried to define what Latin America is, and how they have sought to differentiate its culture from that of traditional European thought. Conducted in Spanish. Prerequisite: Spanish 131.

Ms. Acosta Cruz

Offered every other year

Spanish 145 HISPANIC AMERICAN SHORT STORY/Lecture, Discussion

An introduction to the tradition and development of short narrative in Hispanic America, from its beginnings in colonial chroniclers through the progressive refinements of theme, local color, style, and narrative technique that led to the

fiction of the twentieth-century "Boom" and beyond. Readings include works by Rubén Darío, Horacio Quiroga, José Luis Borges, Carlos Fuentes, Julio Cortázar, Juan Rulfo. Conducted in Spanish. Prerequisite: Spanish 131.

Mr. Ferguson, Ms. D'Lugo, Ms. O'Connell

Offered every year

Spanish 146 SPAIN AT THE CROSSROADS/Lecture, Discussion

A consideration of post-Franco Spain, as reflected in literature, film, theater, and journalism. In addition, an examination of recent political and historical writings that have attempted to expound different visions of the "new" Spanish society. Conducted in Spanish. Prerequisite: Spanish 131.

Mr. D'Lugo

Offered every other year

Spanish 147 THE FILMS OF LUIS BUNUEL/Lecture, Discussion

Close examination of Buñuel's major surrealist and realistic works in terms of their aesthetic development as well as their critique of culture. Major topics to be covered include the aesthetics of Buñuel's surrealist period, his assaults on cinematic conventions, his accommodation to commercial filmmaking in Mexico, and his critique of Spanish cultural practices. Conducted in English; Spanish major credit available.

Mr. D'Lugo

Offered every other year

Spanish 148 INTRODUCTION TO CINEMA IN LATIN AMERICA/Lecture, Discussion

A survey of representative film cultures, directors, and works in Latin America, with special emphasis on developments in Argentina, Brazil, Cuba, and Mexico. Among the issues under consideration are the politics of representation, cultural nationalism in Latin American cinema, issues of authorship, and alternative film practices in Third World cinema. Conducted in English; Spanish major credit available.

Mr. D'Lugo

Offered every other year

Spanish 149 THE FILMS OF CARLOS SAURA/Lecture, Discussion

Close examination of the major films of Spain's best-known filmmaker in the context of contemporary Spanish cultural politics. The course explores the integration of the themes of history and national identity in Saura's films during the *franquista* dictatorship; the representation of cultural and cinematic censorship in his work; finally, his experiments with cinematic narration in the years following the dictatorship.

Mr. D'Lugo

Offered every other year

Spanish 150 INTRODUCTION TO CINEMA IN SPAIN/Lecture, Discussion

A historical survey of principal Spanish films and filmmakers of the past fifty years in the context of political and social change in Spain. Among the issues under consideration are the formulation of a cultural ideology through *franquista* cinema in the 1940s and the rise of opposition cinema in the 1950s until 1975, the operations of film censorship, the rise of regional film cultures in post-Franco Spain, and auteurism and the national/international audiences of Spanish cinema. Conducted in Spanish.

Mr. D'Lugo

Offered every other year

Spanish 160 THE AGE OF CERVANTES/Lecture, Discussion

An introduction to Spanish literature and society in the Golden Age, from the era of the Catholic monarchs to the death of Cervantes and beyond. Through a close examination of representative works in a variety of genres, the course traces the

development of the Spanish imagination from the flowering of Renaissance humanism through the Counter-Reformation and the birth of the baroque, a profile of the brilliance and despair that characterizes Spain in these imperial centuries. Conducted in Spanish. Prerequisite: Spanish 131.

Mr. Ferguson

Offered every other year

Spanish 180 LATIN AMERICAN LITERATURE IN TRANSLATION/Lecture, Discussion

This course examines major works of Latin American literature, including the Spanish-speaking countries and Brazil, with an emphasis on the cultural, political, and social context in which this literature functions. Topics include Boom and post-Boom literature, the realist novel and reactions against it, women writers, ideas of cultural identity, the role of the author in Latin America, and the Cuban Revolution and its effect on the continent. Conducted in English; major credit in Spanish available.

Ms. Acosta Cruz, Ms. D'Lugo

Offered every other year

Spanish 181 THE LITERATURE OF MODERN SPAIN IN TRANSLATION/Lecture, Discussion

Readings representing the major authors and trends in the literature of Spain in the nineteenth and twentieth centuries. Particular emphasis on the realist novels of Galdós and Clarín in the nineteenth century, the philosophical novels of Unamuno and Pérez de Ayala, poetry and theater of Lorca, and the post-modernist narratives of Goytisolo in the twentieth century.

Mr. D'Lugo

Offered every other year

Spanish 199 ADVANCED TOPICS TUTORIAL/Seminar

Close readings and discussion of representative works by major Spanish writers of the premodern period. Ordinarily it is taken by majors in their senior year as a capstone experience. Topics for 1988-90: the Spanish Baroque, the Mexican novel, *Don Quijote*, Galdós and the realist novel. Conducted in Spanish.

Ms. Acosta Cruz, Ms. D'Lugo,

Offered every semester

Mr. Ferguson, Mr. D'Lugo

Spanish 206 SPECIAL TOPICS IN SPANISH/Seminar

Offered for variable credit.

Staff

Offered every semester

Spanish 207 FIELD WORK IN THE HISPANIC COMMUNITY/Seminar

This course offers an opportunity to work in one of a variety of community agencies and projects serving the Hispanic community in Worcester (the bilingual school program, Casa de la Comunidad, Worcester Legal Services, etc.). Student work is supervised by a campus adviser and a designated supervisor from the cooperating agency; the student is also expected to keep a journal—to be submitted at the end of the semester—in which particulars of language, culture, and related problems of the bilingual community are critically examined. Prerequisites: proficiency in Spanish; successful completion of course work in the field or fields related to the specific project area; permission of instructor. Offered for variable credit.

Ms. Acosta Cruz

Offered every year

French

See Department of Foreign Languages and Literatures.

Geography

GRADUATE SCHOOL OF GEOGRAPHY FULL-TIME FACULTY

Susan Hanson, Ph.D., *director*: urban/social geography, transportation, research methods, geographic perspectives on women

David P. Angel, M.A.: urban/economic geography, social theory

Martyn J. Bowden, Ph.D.: cultural humanistic and historical/urban/social geography

J. Ronald Eastman, Ph.D.: cartography, geographic information systems

Jacque L. Emel, Ph.D.: water resources, resource management

Stanley R. Herwitz, Ph.D.: hydrology, biogeography, field methods

Douglas L. Johnson, Ph.D.: cultural ecology, arid lands management

Gerald J. Karaska, Ph.D.: urban/economic geography, development

Roger E. Kasperson, Ph.D.: hazards, environment and society, political geography

William A. Koelsch, Ph.D.: history of geography, environmental history

Laurence A. Lewis, Ph.D.: geomorphology, tropical agriculture and environment

Robert C. Mitchell, Ph.D.: environment and society, risk perception, survey research methodology

Richard Peet, Ph.D.: political economy, Marxist geography

Harry J. Steward, Ph.D.: cartography, remote sensing

B.L. Turner II, Ph.D.: cultural/human ecology, agriculture, tropics

ADJUNCT FACULTY

Samuel Ratick, Ph.D.: environmental public policy modeling

AFFILIATE FACULTY

Leonard Berry, Ph.D.

Anne Buttimer, Ph.D.

Perry O. Hanson III, Ph.D.

Kirsten Johnson, Ph.D.

Robert W. Kates, Ph.D.

Howard E. Tompkins, Ph.D.

STAFF

Anne Gibson, M.A.: research cartographer, cartographic lab manager

Jean Heffernan: assistant to the director

EMERITUS

Duane S. Knos, Ph.D.

Harry E. Schwarz, B.C.E., P.E.

The Graduate School of Geography was organized in 1921 and is now the oldest independent doctoral program in geography in the United States. In addition, the school offers an undergraduate major and a seven-year program (B.A./Ph.D. degree). The program emphasizes individual attention through student-teacher dialogue.

Ongoing Research

The Geography School is involved in an institutional cooperative agreement with the United States Agency for International Development (USAID) on the subject of Settlements and Resources Systems Analysis (SARSA); this project builds the institutional capacity of the University to support research and provide technical assistance to the overseas missions of USAID. Interdisciplinary in scope, this project is headed by Professor Gerald J. Karaska and has ongoing projects on three continents.

Geography faculty are also involved in the Center for Technology, Environment and Development (CENTED), an interdisciplinary research institution at Clark that addresses such issues as environmental and technological hazards, energy issues, and international development. Major ongoing projects headed by Professor Roger E. Kasperson include evacuation planning for Three Mile Island, siting of radioactive waste facilities, evaluating risk communication, risk assessment on high-level waste nuclear disposal in Nevada, and a two-year project on the social amplifications of risk, supported by a grant from the National Science Foundation.

Other funded ongoing research within the School involves transportation and gender issues, water policy in the southern Great Plains, perception of water quality, soil erosion in Central Africa, and Indian agriculture in the Americas in 1492.

The Geography School is the center for a major international and interdisciplinary investigation of "The Earth as Transformed by Human Action." Co-sponsored by such institutions as the International Institute for Applied Systems Analysis and the World Resources Institute, this project seeks to fuse the social and natural sciences in documenting and understanding the past 300 years of human impact on the biosphere. A major symposium exploring these issues took place at Clark in October, 1987. A planned five-year program of follow-up activities includes publication of the symposium papers and the launching of new research initiatives. The project houses a Macintosh desktop publishing system and related hardware. The project staff at Clark are Professor B.L. Turner II (coordinator), William B. Meyer (associate coordinator), and Linda Finan (assistant to the coordinator).

Publications

A professional journal, *Economic Geography*, is edited by a faculty member. Started at Clark University in 1925, it is the only journal published in English that specializes in economic geography. The journal has a worldwide distribution with a total circulation of about 5,000 and the highest "impact factor" rating among geography journals.

The graduate students maintain the Clark University Geographical Society (CUGS). The *Monadnock Newsletter* keeps School of Geography alumni in touch with each other and with news and scholarly activities of the School.

The Graduate School of Geography also publishes IDRISI, a geographic information software system developed by Professor Ronald Eastman. The system was developed at Clark and has been distributed to hundreds of organizations worldwide.

In addition, the School produces the *Wallace W. Atwood Lecture Series*, which features the lectures of distinguished scholars of geography and related fields of study.

The professional work of some members of the department is published in the CENTED (Center for Technology, Environment and Development) publication series at Clark University.

GEOGRAPHY UNDERGRADUATE PROGRAM

The undergraduate geography program covers a three-year period (sophomore-senior), during which 50 to 80 percent of the student's course work is

accounted for within the program. A minimum set of geography requirements is built into the major, and course work in related fields is selected in consultation with the student's adviser in light of individual needs and capacities.

Emphasis in the undergraduate major in geography is on broad training in the field. Within this training, some specialization is facilitated by the organization of courses in streams, and students are encouraged to take a series of courses in one or two of these streams. Geography majors are encouraged to gain skills in quantitative methods, computer programming, mapping, and research methods.

There is a departmental advisory system headed by a central undergraduate adviser who advises all incoming majors. As students advance through the program, they may select another adviser whose interests best match their own. A geography major's courses for each semester must be approved by the adviser.

Courses are sequential to allow progressively greater use of skills from 00-level to 100-level to 200-level courses. The recognized areas of concentrated interest (streams) at the undergraduate level are:

- a) cultural/humanistic
- b) environmental affairs/management
- c) physical geography of human systems
- d) regional/international development/political economy
- e) urban/social/planning
- f) cartography/remote sensing/geographic information systems

The Geography Student Organization (GSO) functions as a professional and social outlet for undergraduates. Students are encouraged to participate in its career seminars, trips, and other activities.

REQUIREMENTS FOR GEOGRAPHY MAJORS

To graduate as a geography major, the student must complete the following courses:

1. *Within the Graduate School of Geography*

- (a) Geography 011, *Survey of Geography*
- (b) Two courses selected from among the following:
 - Geography 014, *Introduction to Physical Geography*
 - Geography 015, *Introduction to Economic Geography*
 - Geography 017, *Introduction to Cultural Geography*
 - Geography 018, *Introduction to Urban Geography*
 - Geography 019, *Introduction to Environmental Geography: The Global Environment*
- (c) Two skills courses selected from among the following:
 - Geography 110, *Computer and Quantitative Methods: Introduction*
 - Geography 247, *Computer and Quantitative Methods: Intermediate*
 - Geography 181, *Introduction to Cartography* or an advanced cartography or remote sensing course
 - Geography 137, *Time and Space in Old and New England*—for students in the cultural/humanistic stream
 - Geography 141, *Research Methods in Geography*(In addition, the department accepts a second-year, second-semester language course as a skill. Other courses equivalent to those listed above may be accepted by student's adviser.)
- (d) A 100-level course taken as a "writing course"
- (e) A 200-level geography senior seminar
- (f) A 200-level course in the same stream as the senior seminar

(g) At least three additional courses in geography, two of which must be taken at the 200-level

2. *In Disciplines Related to Geography*

Four elective courses in related disciplines, selected in consultation with the student's adviser, must be taken.

DUAL MAJOR: REQUIREMENTS

For students majoring in geography and another discipline, the requirements for coursework within the school of Geography are: *Survey of Geography*(011), one 00-level introductory course, two skills courses, a 100-level writing course, a 200-level senior seminar, and a 200-level course in the same stream as the senior seminar.

HONORS PROGRAM IN GEOGRAPHY

Students with an outstanding academic record are eligible to participate in the Geography Honors Program. To graduate with honors in geography the student must successfully complete either a one- or two-credit independent honors project conducted under the supervision of a faculty member.

The Geography Honors Program is open to juniors who, by the end of the first semester of the junior year, have a minimum grade point average of 3.25 overall and 3.5 in the geography major (geography courses and related courses) and who can demonstrate that they have the appropriate research background required to undertake independent geographic research.

The student who wants to carry out a two-semester honors thesis will register for geography honors the spring semester of the junior year and the fall semester of the senior year. A thesis proposal must be approved by the supervising faculty member by November 1 in the student's junior year. Students wishing to pursue a one-semester honors thesis can do so either in the spring of the junior year or in the fall semester of the senior year; the deadline for approval of the thesis proposal is November 1 of the junior year if the thesis is to be completed in the junior year, and April 1 of the junior year if the thesis is to be conducted in the fall semester of the senior year. Students interested in the Geography Honors Program should get additional details from the undergraduate adviser in the Graduate School of Geography.

SEVEN-YEAR B.A./PH.D. PROGRAM

A formal seven-year program for Clark undergraduate students is offered, leading to the Ph.D. degree in geography. At the undergraduate level, applicants must major in geography, a related field, or complete a dual major in geography, and make application at the end of the first semester of the junior year. The B.A./Ph.D. program usually includes spending the sixth year off campus in residence at another university or agency. Admissions are limited to a very small number of highly qualified students and in subfields of concentration that are appropriate to Clark's range of offerings. For specific information, contact the director of the School of Geography. Applications to these programs should be submitted to the Geography Office no later than February 1.

THE GRADUATE SCHOOL OF GEOGRAPHY PH.D. PROGRAM

Admissions

Applicants with or without prior training in geography are welcome. Depending on their concentrations, they may be required to improve their knowledge of elements of geography, cartography, or research methods. Courses taken to remedy any deficiencies will not count as part of the regular program. The Graduate Record Examination scores (verbal and quantitative) are required of all American

students. TOEFL scores (or results of another English proficiency test) are required for students from countries in which English is not the first language.

Graduate Program

The graduate program of study in geography at Clark focuses on the Ph.D. degree, and only those students seeking full-time training for that degree are admitted into the program.

Degree Objectives

As prospective members of this geography community, graduate students work toward the following objectives:

- 1) development of extensive knowledge in the content of geography and competence in the use of research skills
- 2) development of a sense of problem (for research problems are at the core of an experiential learning process).
- 3) development of divergent thinking skills from which creative and original ideas evolve
- 4) development of a sense of the tentativeness of knowledge and a patience with ambiguity
- 5) development of a tough-minded learning discipline
- 6) development of a sense of self-confidence and competence
- 7) development of a sense of the nature of the community of geographers.

The program is designed to enable students to focus their learning experience with these philosophical guidelines in mind.

Program Structure

The graduate curriculum is organized to give a broad view of the field of geography and its teaching, as well as a specialized approach to selected subfields. The subfields, organized in accordance with the interests and competencies of the staff, include: cultural/humanistic, environmental affairs management, physical geography of human systems, regional/international development/political economy, urban/social planning, and cartography/remote sensing/geographic information systems. In addition, ongoing projects conducted by research groups in the School of Geography, the program for International Development (ID), the program for Environment, Technology and Science (ETS), and the Center for Technology, Environment and Development (CENTED) should be considered an integral part of the graduate curriculum; students may choose to structure their programs around such collaborative research endeavors. (See appropriate information elsewhere in this catalogue on CENTED, ETS, and ID.)

The first year of graduate study is planned to broaden the student's knowledge of the field of geography and help define student interests in the context of the Clark program. During the first year of study, students must take two of three graduate core seminars: *Development of Western Geographic Thought* (368), *Explanation in Geography* (318), and *Research Methods* (314). The remainder of the student's coursework is selected in consultation with the graduate adviser. In addition, graduate students are expected to attend departmental colloquia, which cover a variety of topics involving a number of guests and staff. Towards the end of the first year, a formal review of the student's progress and discussion of future plans are conducted by a three-member, first-year advisory and assessment committee. The student must declare a formal adviser during the meeting of the committee.

The second year of graduate study should begin to emphasize learning through in-depth work in the student's field of interest, through a focus on problem formation and through research experience. Usually, this year involves working

closely with a single faculty member or a group of faculty and students. Emphasis should also be placed on the development of conceptual depth and skills, especially those applicable to the dissertation experience, and preparation for doctoral exams.

By the third year of study, students should be well on their way to completing most of the requirements of the graduate program. The aim is to be advanced to Ph.D. candidacy in order to proceed with doctoral research and writing. Doctoral examinations must be taken by the end of the third year of study. These exams focus on the breadth of knowledge in substantive subfields of geography and on a knowledge of methodological and philosophical concerns relevant to the student's interests. Normally, the specialty skills requirement should be completed before the doctoral exam is taken. A specialty skill includes some technique, method, or ability that is essential to the student's research experience.

After the completion of the doctoral examinations, students submit a proposal for doctoral research that must be approved by the doctoral proposal committee. On completion of all requirements and approval of a draft of the Ph.D. dissertation, the student presents and defends the dissertation to the committee and other members of the school.

Residence and Credit Requirements

A three-year residence and 16 course credits beyond the B.A. degree are required for the Ph.D. program. Students entering with an M.A. in a field other than geography will be expected to complete essentially the three-year residence program and at least 8 course credits as determined by the School. Students entering with an M.A. in geography from another institution must complete two and one-half years of residency and 8 course credits.

Teaching and Research Prerequisite

Teaching and research experiences at Clark are prerequisites to the Ph.D. degree.

DISTINCTIVE FEATURES AND SPECIALIZATION

The main offices of the Graduate School of Geography are housed in the University's Academic Center, complete with cartographic, earth science, and geographic information systems (GIS) laboratories. In the adjacent Geography Building, offices and work space for graduate students are provided in addition to the Map Library, the J.K. Wright Reading Room, and the Libbey Seminar Room, which contains the personal library of Dr. Wright, regularly updated publications in the field of geography, and subscriptions to geography journals. Graduate students have their own lounge space and personal computing room.

The Guy H. Burnham Map Library is a multifaceted, special library staffed by a professional map librarian. The collection consists of over 165,000 maps, charts, atlases, aerial photographs, and globes, and is a depository for maps and charts from federal agencies. Many support materials are on hand; others can be obtained through interlibrary cooperation.

The Clark University Cartographic Service and cartography classrooms are located on the lower level of the Academic Center. This area provides students with specialized workspace and a variety of up-to-date cartographic equipment, including a newly enlarged and well-equipped graphic production darkroom, a stereo-facet plotter, a Tektronix large-format digitizer, a D-size flatbed plotter, 12 microcomputers and terminals with graphics capability, and a micro-VAX computer with a VAX Station I high resolution graphics workstation.

GRADUATE SCHOOL OF GEOGRAPHY COURSE LISTING BY STREAM

NONSTREAM

- 011 *Survey of Geography*
- 110 *Computer and Quantitative Methods in Geography: Introduction*
- 141 *Research Methods in Geography*
- 146 *Political Geography*
- 174 *Themes in Classical Geographic Thought*
- 247 *Computer and Quantitative Methods in Geography: Intermediate*
- 291 *Jonas and Susan Clark Collection*
- 297 *Geographic Information Systems*
- 314 *Research Design, Research Methods*
- 318 *Explanation in Geography*
- 368 *Colloquium: The Development of Western Geographic Thought*

CULTURAL/HUMANISTIC

- 017 *Introduction to Cultural Geography*
- 108 *World Population*
- 117 *Culture Landscape*
- 137 *Time and Space in Old and New England*
- 139 *Country and Culture*
- 140 *Cities and Culture: The Ancient City*
- 142 *Cities and Culture: The American City*
- 143 *Cities and Culture: The European City*
- 172 *American Space and Its European Roots*
- 177 *Cultural Ecology in Arid Lands*
- 196 *Culture and Sport*
- 234 *Health and Disease in the American Habitat*
- 240 *The End of America: Los Angeles*
- 253 *New England Landscape*
- 259 *Images, Symbol, and Myth in the American West*
- 276 *Cultural Ecology in the Humid Tropics*
- 279 *American Landscape*
- 284 *Landscapes of the Middle East*
- 295 *Agriculture in Third World Economies*
- 312 *Seminar: Agriculture and Development*
- 330 *Seminar in Cultural Ecology*
- 340 *Ecology and Prehistory*
- 367 *Ideas of Culture*
- 370 *Animal Agriculture*

PHYSICAL GEOGRAPHY OF HUMAN SYSTEMS

- 014 *Introduction to Physical Geography*
- 025 *Earth Science and Development*
- 112 *Biogeography*
- 114 *Intermediate Geomorphology*
- 115 *Hydrology*
- 118 *Environmental Earth Science*
- 120 *Physical Environment of Cities*
- 122 *Weather and Climate*
- 124 *Soil Science*
- 201 *Island Biogeography*
- 202 *Advanced Topics in Climatology*
- 204 *Watershed Ecology*
- 211 *Geomorphology of Humid Tropics*

- 213 *Field Methods and Research*
- 215 *Fluvial Processes in Geomorphology*
- 216 *The Physical Environment of Arid Lands*
- 218 *Seminar in Physical Environment and Development*
- 220 *Agriculture and Grazing: A Physical Perspective*
- 260 *Physical Climatology*
- 300 *Advanced Topics in Physical Geography*
- 301 *Soil-Water-Plant Relationships*
- 362 *Seminar in Geomorphology*

URBAN/SOCIAL/PLANNING

- 018 *Introduction to Urban Geography*
- 162 *Urban Economic Geography*
- 170 *Urban Social Geography*
- 222 *Dynamics of City Growth*
- 245 *Senior Seminar in Human Geography*
- 254 *Urban Transportation: Problems and Prospects*
- 273 *Seminar in Urban Geography*
- 373 *Seminar in Urban Geography*

ENVIRONMENTAL AFFAIRS/MANAGEMENT

- 019 *Introduction to Environmental Geography: The Global Environment*
- 101 *Introductory Case Studies*
- 157 *Technology and Social Change*
- 158 *Contemporary Agricultural Resource Systems*
- 176 *Environment 198_*
- 205 *Environmental Protection Law*
- 210 *Environment and Society*
- 226 *Seminar: Hazard Management—Theory and Application*
- 228 *Management of Arid Lands*
- 231 *Seminar: Politics and the Environment*
- 236 *Seminar: International and Comparative Resource Policies*
- 246 *Technology Assessment*
- 251 *Seminar: The Earth Transformed*
- 252 *Locating Hazardous Facilities*
- 255 *Risk Perception*
- 256 *Seminar: Problems in Water Resources Planning*
- 257 *Theory of Multi-Objective Resource Evaluation*
- 266 *Quantitative Methods of Risk Analysis*
- 269 *Environment and Development in Africa*
- 271 *Groundwater Hydrology and Management*
- 275 *Citizen Participation: Theory and Application*
- 278 *Seminar in African River Basin Development*
- 287 *Socioenvironmental Impact Analysis*
- 310 *Research Seminar in Development Geography*
- 348 *Research Seminar in Hazard Management*
- 350 *Nature, Society, and Technology*
- 351 *Seminar in Resource Geography: Theory and Method*

CARTOGRAPHY

- 180 *Field Mapping*
- 181 *Introduction to Cartography*
- 189 *Remote Sensing of the Environment*
- 217 *History of Cartography*

- 274 *Seminar in Cartographic Design*
- 292 *Cartographic Design and Production*
- 294 *Problems in Cartography*
- 296 *Remote Sensing Project Work*
- 297 *Geographic Information Systems*
- 298 *Introduction to Automated Cartography*

REGIONAL/INTERNATIONAL DEVELOPMENT/POLITICAL ECONOMY

- 015 *Introduction to Economic Geography*
- 027 *Geography of the Third World*
- 125 *Development Problems*
- 127 *Political Economy of Underdevelopment*
- 129 *Political Economy of Industrial Countries*
- 130 *Introduction to Latin America*
- 182 *Politics, People, and Pollution*
- 228 *Management of Arid Lands*
- 232 *Latin America—Prospects and Problems*
- 235 *Geography of the Capitalist World System*
- 258 *South Africa and Development in Southern Africa*
- 264 *Regional Economic and Social Development*
- 265 *Money, Banking, and Public Finance in Developing Countries*
- 268 *Anthrogeography*
- 272 *International Division of Labor*
- 289 *Problems in Political Economy of Development*
- 293 *Overcoming World Hunger—Agricultural Research and International Development*
- 336 *Household Economic Behavior and the Geography of Development*
- 338 *Seminar in Industrial Geography*
- 360 *Development Theories and Philosophies of Change*
- 365 *Seminar in Social and Economic Geography*
- 369 *Seminar in Environment and Development*
- 395 *Economic Development and Policy Analysis*

COURSES

011 SURVEY OF GEOGRAPHY/Lecture, Discussion

A survey of major concepts in modern geography. Emphasis is placed on the various approaches to geographic research currently conducted in the Graduate School of Geography. Physical (climatology, soils, biogeography, and landform studies), cultural, historical, economic, urban, and social themes are developed. Designed primarily for freshmen and sophomores. A required course for geography majors.

Mr. Johnson, Mr. Turner

Offered every year

014 INTRODUCTION TO PHYSICAL GEOGRAPHY/Lecture, Laboratory

A basic inquiry into the principles and components of landforms and climates. It provides critical background necessary for evaluating environmental problems. The role of human activities on physical processes is included.

Staff

Offered every year

015 INTRODUCTION TO ECONOMIC GEOGRAPHY/Lecture

Theories of the geography of the production of human existence out of nature are presented. The course emphasizes contemporary economic, social, and environmental problems. These include overpopulation, environmental crises, world food

problems, uneven economic development, the spatial movement of industry and jobs, and regional decline and unemployment. The course concludes by discussing the disappearance of unique regional economies and cultures and the emergence of a world capitalist economy, culture, and consciousness.

Mr. Karaska

Offered every year

017 INTRODUCTION TO CULTURAL GEOGRAPHY/Lecture

An ecological and historical approach to the study of cultures and cultural change in a spatial context. A series of broad themes and problems are illustrated by case studies set mainly in North America. Among major themes considered are: adaptation to the "natural" environment; culture in prehistory; migration and the creation of cultural areas; the world views of primitive, traditional, and industrial culture; cultural landscape; and the cultural geography of the United States. One discussion section each week in addition to lectures.

Mr. Johnson

Offered every year

018 INTRODUCTION TO URBAN GEOGRAPHY/Lecture, Laboratory

An introduction to the study of urban form, function, and problems. Themes pursued include the process of urbanization, migration, community development and governance, location of various urban utilities, the economic basis of cities, and the problems associated with growth.

Mr. Angel

Offered every year

019 INTRODUCTION TO ENVIRONMENTAL GEOGRAPHY: THE GLOBAL ENVIRONMENT/Lecture, Discussion

Provides an overview of the physical and humanistic components of major global environmental problems—world food supplies, tropical deforestation, acid rain, ozone layer destruction, and land degradation. Students are introduced to the major biogeochemical cycles, interactions of the atmosphere and hydrosphere, and measurable trends in global ecology. Poverty, world health, population trends, and the roles of science and technology are examined as factors in, and products of, the global environment.

Ms. Emel

Offered every year

025 EARTH SCIENCE AND DEVELOPMENT/Lecture

The physical constraints on the development of agricultural resources, provision of water supplies, and urbanization are evaluated. The focus is on characteristics and issues central to the management of environmental resources, with emphasis on the range of physical environments found in Africa, Central America, and South America.

Mr. Lewis

Offered periodically

027 GEOGRAPHY OF THE THIRD WORLD/Lecture, Discussion

Introduces students to the geo-history of the Third World through a "mode of production" analysis of the relations between Europeans and the people of Latin America, Africa, and Asia. Each year a particular Third World problem is identified and analyzed—environment, hunger, economic development, and cultural imperialism are examples. The course is suited to students with little background or knowledge of the Third World but with a thirst to understand the conditions of existence of the majority of the world's people, and a commitment to changing those conditions.

Mr. Peet

Offered every year

101 INTRODUCTORY CASE STUDIES/Lecture, Discussion

Introduces the student to technology assessment and environmental policy via a series of illustrative cases, drawn from population and food, land and water resources, energy conservation, pollution control, and arms control. Both writing and quantitative methods are emphasized so that students will become aware of the multidisciplinary approach needed in analysis of the cases. An integrative paper or presentation plays a major role in the course.

Ms. Brown, Mr. Renn, Staff

Offered every semester

108 WORLD POPULATION/Lecture

Is the population of the world growing too fast? Will overpopulation lead to doomsday? To address these questions requires an understanding of the nature of population growth and sociocultural responses to it. This course develops an understanding of this relationship through a mix of demography and population geography. World patterns of population distribution, history, and dynamics are explored, and the future of population problems is addressed.

Mr. Turner, Mr. Johnson

Offered periodically

110 COMPUTER AND QUANTITATIVE METHODS IN GEOGRAPHY: INTRODUCTION/Lecture

An introduction to geographic analysis and the role of the computer in assisting this process. The course considers data sampling and descriptive and inferential statistical techniques for analyzing geographic data. Topics range from graphic techniques to tests of hypotheses, simple regression, and the analysis of variance. As an integral part of the course, students learn to use computer programs for statistical analysis, data graphing, and computer-assisted cartography. Although no prior exposure to computers or statistics is assumed, the course is suitable for students of all levels and is one for which graduate students may receive credit.

Mr. Eastman

Offered every year

112 BIOGEOGRAPHY/Lecture

Past and present geographical distributions of plant and animal species are considered in relation to continental drift, species interactions, dispersal strategies, biological evolution, and human activity. Island biogeography and the biogeography of tropical vascular plants are emphasized.

Mr. Herwitz

Offered every year

114 INTERMEDIATE GEOMORPHOLOGY/Lecture

The history of plate tectonics is explored in relation to the uplift of mountains, tectonics, and volcanism. The gradual wearing down of the earth's surface by hydrological processes is emphasized in the latter part of the course. Prerequisite: Geography 014 or Geology 100 or permission of instructor.

Staff

Offered every year

115 HYDROLOGY/Lecture

Provides an overview of the hydrologic cycle and its major components including precipitation, evapotranspiration, soil moisture, surface water runoff, and groundwater flow. The course focuses upon the role of water as a unifying concept in environmental science. Examines human modification of natural hydrologic regimes. Prerequisite: Geography 014 preferred but not required.

Staff

Offered every year

117 CULTURE LANDSCAPE/Lecture

Examines the processes and values that shape the human environment. The

fundamental premise is that every culture leaves a record of its presence in its material and scape and that this landscape record can be understood and "read" by the informed observer. Because landscape is a product of culture as well as of nature, it can best be understood comparatively using both an insider's (native's) and outsider's perspective. Insights are gained by comparing familiar landscapes with those produced by other cultures. For this reason, the course studies selected Middle Eastern, Indian, Chinese, and European landscapes in addition to the regional landscapes of North America. Artistic, literary, historical, and ecological perspectives are brought to bear on the interpretation of ordinary and elite landscapes of fact and symbol.

Mr. Johnson

Offered every other year

118 ENVIRONMENTAL EARTH SCIENCE/Lecture

Examination of the basic concepts and processes within the earth sciences, relative to the evaluation of risks and decisions on future policies of land use and resource utilization. The emphasis is on aspects of the environment of particular interest to geographers, geologists, and planners. Prerequisite: Geography 014 or Geology 100 or permission of instructor.

Staff

Offered every other year

120 PHYSICAL ENVIRONMENT OF CITIES/Lecture

Provides an overview of the physical geography of cities. The class focuses upon the impact of human settlement on climate, atmospheric quality, hydrology, vegetation, wildlife, earth surface processes, and environmental hazards of cities. Appropriate for nonmajors; no prerequisites.

Staff

Offered every other year

122 WEATHER AND CLIMATE/Lecture, Lab

This introduction to weather and climate stresses the concepts and principles necessary in understanding the atmospheric system and the regional climatologies produced by that system. Intended for physical geography students and others wanting a complete background (at an introductory level) to meteorology. Lab required.

Staff

Offered every year

124 SOIL SCIENCE/Lecture, Field Work

Designed for students interested in physical geography, agriculture, environmental management, and land use planning. Topics covered include soil genesis, chemistry, and physics. Specific management problems, including erosion and pollution, provide cases for understanding general principles. Fieldwork provides opportunities for students to learn basic sampling and monitoring techniques. No prerequisite, although chemistry would be useful.

Ms. Emel

Offered every other year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Introduces students to the major issues and debates in the field of international development, by addressing a variety of concerns including colonialism, development and underdevelopment, the relationship between arms expenditures and development, growth and equity issues, trade, aid, North-South relations, emergence of class, and political ideologies. The class focuses on specific problems of food, population, and resources. Case materials are drawn from a number of countries including India, China, Kenya, Tanzania, Mexico, Brazil, and Bangladesh.

Ms. Thomas

Offered every year

127 POLITICAL ECONOMY OF UNDERDEVELOPMENT/Lecture

Do conventional explanations of underdevelopment strike you as false and unconvincing? A powerful and refreshing alternative perspective exists in Marxist and neo-Marxist theories of social change. This course reviews the main currents within this rich stream including theories of dependency, imperialism, accumulation world systems, unequal exchange, and mode of production. Marxist concepts are used to examine the international role of capital, multinational corporations, and regional decline. Finally, the course presents alternative models of socialist development.

Mr. Peet

Offered every year

129 POLITICAL ECONOMY OF INDUSTRIAL COUNTRIES/Lecture

The advanced capitalist countries are undergoing rapid economic change including an industrial devolution as remarkable as the industrial revolution of the nineteenth century. This course examines the effects of economic change in the United States, Western Europe, Japan, East Asia, and Latin America in the context of theories of global development. Economic and social problems, such as the destruction of employment, unemployment, and regional and community collapse, are emphasized. The course also examines the contradictions of regional economic advance in high technology regions, such as New England, Silicon Valley, and the technopolis of Japan. Theories and practices of regional development policy bring the course to a pragmatic conclusion.

Mr. Peet

Offered every year

130 INTRODUCTION TO LATIN AMERICA/Lecture

This course considers the underlying bases of Latin American society, especially from an economic and cultural perspective. Theories to explain the Latin American "condition" are reviewed to set the context for the course. The contribution of the Pre-Columbian civilizations (especially Inca and Maya) is evaluated in both a real and symbolic sense, followed by a comparison with the Iberian cultural, economic and political traditions introduced at the time of the conquest. The second half of the course focuses on political movements, trends in economic development, and international relations.

Mr. Jones

Offered every year

137 TIME AND SPACE IN OLD AND NEW ENGLAND/Lecture

Uses cases from old and New England to demonstrate the skills, methods, and sources of cultural, historical, and humanistic geography in the towns and fields of New England and in texts of both Englands. Dating techniques; prehistoric chronology; estimating past populations; toponymy, linguistics, and lexical evidence; archaeology and ground itself; archival and literary evidence; aerial photography; vernacular and high style architecture; analysis of art and literary texts. Skills course for geography majors in cultural/humanistic stream.

Mr. Bowden, Staff

Offered every other year

139 COUNTRY AND CULTURE/Lecture

The landscape can be read! Be it a vast tropical rainforest with an occasional clearing or an intensively cultivated river valley in New England, the rural landscape is the product of interaction between place (environment) and people (culture). This course traces the evolution of rural landscapes through time from early hunter-gatherers to modern suburban encroachment on rural areas. Emphasis is placed on ecological principles that help explain the technocultural modification of rural places.

Mr. Johnson, Mr. Turner

Offered every other year

140 CITIES AND CULTURE: THE ANCIENT CITY/Lecture

The course develops a model of the cultural role of cities and above all of cultural capitals to effect cultural change and to maintain or destroy cultural stability. For each major civilization, the geographic and symbolic imprint of culture is described and explained in terms of the cosmomagical in the major civilizations: Egypt, Mesopotamia, China, India, Meso-America, Cambodia, Greece, and Rome. The notion of the traditional preindustrial, precapitalist, and protocapitalist city is explored in Islam.

Mr. Bowden

Offered every year

141 RESEARCH METHODS IN GEOGRAPHY/Lecture, Discussion

Focuses upon the ways in which social science research is conducted and emphasizes primarily applied research in a problem-solving context. Involves the students in the variety of problems, methodological strategies, and analytical techniques characteristic of current geographical research. Topics include defining a research problem, measurement, sampling, questionnaire design, and modeling.

Ms. Hanson, Mr. Angel

Offered every year

142 CITIES AND CULTURE: THE AMERICAN CITY/Lecture and Field Trip

The course focuses on the development of distinct subcultures in America, and on the cultural capitals of the country. Emphasis is on the expression of culture in space and on the agents of cultural change and stability. Detailed studies of cities that have at one time been cultural capitals in America—Boston, Philadelphia, New York City, Chicago, San Francisco, and Los Angeles—consider the origins and effects of this role on each city's structure. The same process is studied in distinctive regional cultural capitals—Charlestown, Newport, Salt Lake City, Santa Fe, and New Orleans.

Mr. Bowden

Offered every year

143 CITIES AND CULTURE: THE EUROPEAN CITY/Lecture

Examines the city as a center of cultural stability and cultural change as reflected in urban form. Particular focus upon the notion of creativity in the city. Case studies include London, Edinburgh, Paris, Vienna, and Manchester.

Mr. Bowden

Offered every other year

146 POLITICAL GEOGRAPHY/Lecture, Discussion

Analysis of the interplay between geography and politics, treating such topics as the territorial organization of political systems, decentralization, districting, spatial conflict, electoral geography, delivery of public services, and environmental politics.

Mr. Kasperson

Offered every other year

157 TECHNOLOGY AND SOCIAL CHANGE/Lecture, Discussion

This course focuses on the interaction between technology and society. Among the topics considered are: the nature of technology and its relationship to society, historical and contemporary case studies of the impact of technology, the nature of technological failures, and forecasts of how technology may change society by the year 2000.

Mr. Mitchell

Offered every year

158 CONTEMPORARY AGRICULTURAL RESOURCE SYSTEMS/Lecture, Discussion

Examination of agricultural systems, their processes, problems, and prospects; in part, the course focuses on issues of agricultural decision making, culture and

agriculture, food production, distribution and hunger, technology and resource requirements, environmental impacts, and alternative agricultural futures. The course draws upon case studies in North America, Asia, and Latin America.

Staff

Offered every other year

162 URBAN ECONOMIC GEOGRAPHY/Lecture

Focuses on the system of cities, the dynamics of interurban and interregional space economies, and the role of cities in regional development. Course also focuses on changing patterns of urban land use, theories of urban land use, and data requirements and methods for handling problems in urban land use planning.

Mr. Karaska

Offered periodically

170 URBAN SOCIAL GEOGRAPHY/Lecture, Discussion

Focuses on the definition and importance of social areas within cities, patterns and processes of residential segregation, the role of the neighborhood in urban life, and the functioning of the urban housing market. Also examines urban planning approaches to solving housing and neighborhood problems.

Ms. Hanson

Offered every year

172 AMERICAN SPACE AND ITS EUROPEAN ROOTS/Lecture, Discussion

An examination of the European images of the known world at the time of the discovery of America, of how these early notions affected later thought about America in the areas of geography, literature, and the arts, and of the succession of American (and European) images of American space to the present. Using literature, film, and other artistic forms, specific models are studied in a variety of contexts: the island, the city, the garden, the frontier, and the general contrast between primitive and civilized spaces.

Mr. Bowden

Offered every other year

174 THEMES IN CLASSICAL GEOGRAPHIC THOUGHT/Lecture, Discussion

Ecology, ecumene, environment, and exploration: these four themes are the intellectual legacy to modern geography of the ancient Greeks and other Mediterranean peoples. Such geographically related topics as the voyage of Odysseus, the Atlantis myth, the concept of sacred space, the measurement of the earth, the relations of nature and culture, the design of the environment, the idea of the habitable world, the relations of climate and health, and the exploration of the "barbarian" world are examined both in the accounts of ancient Greek and Roman writers (in translation) and in later scholarly elaborations. Open to all those interested in the continuing significance of the thought of the ancient Mediterranean world.

Mr. Koelsch

Offered every other year

176 ENVIRONMENT 198/Lecture, Discussion

An assessment of major environmental issues, both national and global in nature, confronting human society in the current year. Particular attention to problems requiring governmental action: rapid population growth, hazardous chemical wastes, long-term planning, and world water shortages. The interplay between environmental change and public policy is stressed. Intended for those desiring introductory or general knowledge.

Mr. Kasperson

Offered every year

177 CULTURAL ECOLOGY IN ARID LANDS/Lecture, Discussion

Drylands are risky and often inhospitable places in which to live. Yet people choose to occupy such places and to wrest a living from sparse and scattered resources.

Those farmers, herders, hunters, and urban dwellers who are successful have coping strategies for dealing with drought, desertification, and environmental change. Comparison of these strategies in both developing and industrialized societies identifies obstacles to and opportunities for successful management of drylands in support of a growing population.

Mr. Johnson

Offered periodically

180 FIELD MAPPING/Lecture, Laboratory

A basic introduction to the collection of field data for the making of maps. It covers the fundamentals of field survey, including basic instrumentation, and the assembly of both qualitative and quantitative material for practical cartography. Project work is involved.

Mr. Steward

Offered every year

181 INTRODUCTION TO CARTOGRAPHY/Lecture, Laboratory

An introduction to the fundamental principles underlying the graphic representation and geographic description of earth phenomena. The examination ranges from concepts of space and spatial representation to descriptive techniques and the perceptual basis for graphic communication. The laboratory exercises allow a "hands on" exploration of both manual and automated map production and analysis techniques.

Mr. Eastman

Offered every year

182 POLITICS, PEOPLE, AND POLLUTION/Lecture, Discussion

Environmental problems and issues arise from economic development processes in both the industrialized and developing countries. What are the facts, and what are the myths in a consideration of environment and development? How do we establish policies for dealing with these problems? What are the processes by which governments make decisions addressing complex environmental/development issues here and in distant parts of the world? This course offers students an opportunity to examine the relations between environment and development in the context of developing and industrialized societies.

Ms. Thomas, Mr. Schwarz

Offered every other year

189 REMOTE SENSING OF THE ENVIRONMENT/Lecture, Laboratory

Offers a broad introduction to one of the most powerful tools now being developed for surveying geographical phenomena. Covers the use of remotely sensed data, such as air photos and a variety of satellite imagery, to provide answers to many of the problems about our physical and human environment.

Mr. Steward

Offered every year

196 CULTURE AND SPORT/Lecture, Discussion

Readings in humanities "texts," meetings focused on film, and frameworks from the social sciences are used to explore a number of American games/sports (and their social English progenitors) as expressions of American history, character, values, environment, self-image, mentality, economic ethos, and institutions. Themes are: (1) the relation between the character and structure of the games and their success among different groups of Americans; (2) the timing of adoption of the games; (3) explanations for the transformation of the games from British and early forms; (4) deviation of professional and amateur variants; and (5) scale and nature of sport as a business. Athletics, boxing, cricket, baseball, soccer, rugby, football, basketball, hockey, and tennis, among others, are considered. Classes meet weekly. The class period is extended on alternate weeks for special events (e.g., films).

Mr. Bowden

Offered every other year

201 ISLAND BIOGEOGRAPHY/Lectures, Readings, Discussions

This field-oriented course on the biology and geology of Bermuda consists of three parts: (1) lectures, readings, and discussions, consisting of one-and-a-half-hour weekly meetings during the first half of the spring semester; (2) a one-week field experience in Bermuda during spring vacation; and (3) presentation of research projects during the second half of the spring semester.

Mr. Herwitz, Mr. Livdahl

Offered every year

202 ADVANCED TOPICS IN CLIMATOLOGY/Lecture, Seminar

Examines a selected topic in climatology, depending upon the interests of the students enrolled. Topics are chosen from the areas of microclimatology, urban climatology and air pollution, climatic change and climate variability, carbon dioxide and the greenhouse effect, and climate-crop yield-water use relations. Prerequisite: Geography 122 or Geography 260 or permission of instructor.

Staff

Offered periodically

204 WATERSHED ECOLOGY/Seminar

Advanced seminar examining current scientific literature on the biogeochemistry of contrasting forested ecosystems. Topics covered include the inputs, outputs, and internal transfers of energy and nutrients in northern temperate hardwood forests, tropical rainforests, cloud forests, eucalypt woodlands, and baldcypress swamps. The Hubbard Brook ecosystem study is considered in detail with a field trip to the Hubbard Brook experimental watershed in the White Mountains.

Mr. Herwitz, Mr. Livdahl

Offered every other year

210 ENVIRONMENT AND SOCIETY/Lecture, Discussion

A central theme of this course is to analyze the relationship between human societies, especially those that are industrialized, and the natural environment. Among the topics to be considered are: the impact of industrialization on nature, the population-resource debate, the rise of modern environmental concern and political action, and pesticides and energy policy issues.

Mr. Mitchell

Offered every year

211 GEOMORPHOLOGY OF HUMID TROPICS/Lecture, Discussion

The humid tropics—home of the rainforest, dry forest, and savanna—are areas of special interest to physical geographers. Deep weathering of rocks, rapid soil erosion when the forest or grasses are removed, great rivers in the tropics, and the devastating impact of human intervention are among the topics explored. Prerequisite: Geography 114 or Geology 114 or permission of instructor.

Mr. Lewis

Offered every other year

213 FIELD METHODS AND RESEARCH/Senior Seminar

Methods of measuring and monitoring the physical environment. Students have an opportunity to conduct field research and gain experience acquiring hydrological and ecological data from local forested ecosystems. Field and laboratory research leads to the preparation of a formal article that conforms to the specifications of a scientific journal. Prerequisite: permission of instructor.

Mr. Herwitz

Offered every year

215 FLUVIAL PROCESSES IN GEOMORPHOLOGY/Lecture, Discussion

Focuses on the relations between hydrology and geomorphology. The basic properties of hydraulic geometry, erosion, and deposition are explored. Prerequisite: Geography 114 or Geology 114 or permission of instructor.

Mr. Lewis, Staff

Offered every other year

216 THE PHYSICAL ENVIRONMENT OF ARID LANDS/Lecture, Discussion

Presents an analysis of the landscapes and atmospheric environment of arid areas of the earth and the dynamics under which they operate. The focus is on climate and related geomorphic processes. The course emphasizes the arid Southwest of the United States and the African Sahel. Prerequisite: Geography 014 or Geology 100 or permission of instructor.

Mr. Lewis

Offered every other year

217 HISTORY OF CARTOGRAPHY/Lecture

A basic survey of the history of mapping until about 1900. Topics include the methodological basis of investigations into the subject; maps of primitive peoples; the classical, medieval and Renaissance periods; the rise of national surveys; the relationship of mapping to exploration; and the cartography of North America.

Mr. Steward

Offered every year

218 SEMINAR IN PHYSICAL ENVIRONMENT AND DEVELOPMENT/Seminar

The world is changing more rapidly than at any time in history. This course reviews the patterns of change in the Third World, examines the role of environment and resource management in development, and allows students to develop their own in-depth case studies. Permission of instructor required.

Mr. Lewis

Offered every other year

220 AGRICULTURE AND GRAZING: A PHYSICAL PERSPECTIVE/Lecture, Discussion

Agricultural and grazing practices with their relations to the environment are examined. Various physical, cultural, and economic situations in both the developed and the developing world are the focus for the inquiry. Permission of instructor required.

Mr. Lewis

Offered periodically

222 DYNAMICS OF CITY GROWTH/Lecture, Discussion

Historical survey of the internal structure and external relations of urban areas. Stress falls on North American cities through the nineteenth century, with reference to European antecedents. Critical discussion of relevant theories and models of city growth is included.

Mr. Bowden

Offered periodically

226 SEMINAR: HAZARD MANAGEMENT—THEORY AND APPLICATION/Lecture, Discussion

For advanced students, an introduction to the theory and methods of risk assessment and the management of environmental hazards. Case study material is drawn from concurrent research including natural hazards, hazards of consumer products, energy production, toxic chemicals, and transportation.

Mr. Kasperson

Offered every year

228 MANAGEMENT OF ARID LANDS/Lecture, Seminar

The drylands of the world present special development problems. Peculiarly prone to degradation, these regions face the difficult task of providing support to a rapidly growing population. Viewed in a historical perspective, the demography, behavioral characteristics, social and livelihood systems, and physical constraints of dryland ecosystems are analyzed. Special attention is paid to evaluating the management strategies currently employed in their use, identifying the obstacles constraining their growth, and assessing their future development potential.

Mr. Johnson

Offered every other year

231 SEMINAR: POLITICS AND THE ENVIRONMENT/Seminar

For the student with professional career or advanced study objectives. The seminar is organized around current research themes or selected policy issues. Each of these is treated in a two-week period which includes a state-of-the-art assessment, case applications, and a short student position paper on an assigned question. Representative issues include the environmental movement, models of the policy process, mediation of environmental conflicts, the politics of risk, and the role of the mass media. Permission of instructor required.

Mr. Kasperson

Offered periodically

232 LATIN AMERICA—PROSPECTS AND PROBLEMS/Lecture, Discussion

Deals with the politics, history, culture, ethnology, and economic prospects of Latin America. Special emphasis will be placed on economic development and environmental concerns in selected countries, specifically on agrarian reform, agricultural development, environmental degradation, and deforestation. These themes will be evaluated for their progress in Latin America, and the special problems they present for the region.

Mr. Jones

Offered every other year

234 HEALTH AND DISEASE IN THE AMERICAN HABITAT/Discussion

Based on readings drawn from medical and historical geography, biological science, and the history of American medicine and public health, this course takes a synoptic view of concepts and practices concerning health and disease as a form of environmental cognition and management. Discussion topics range from the changing disease environments of early New World migrants and inhabitants to present-day concerns over environmental health hazards, but emphasis is on our societal interactions with urban-industrial disease environments in the last hundred years and their intellectual consequences.

Mr. Koelsch

Offered every year (not offered 1988-89)

235 GEOGRAPHY OF THE CAPITALIST WORLD SYSTEM/Seminar

Reviews world systems theories, crucial phases in the development of the capitalist world system, the history of center-periphery relations, underdevelopment, multinational corporations and the new international division of labor, the geography of consciousness, and the spread of American culture. The course emphasizes a particular geographic problem of current interest each time it is offered.

Mr. Peet

Offered every other year

236 SEMINAR: INTERNATIONAL AND COMPARATIVE RESOURCE POLICIES/Lecture, Seminar

Deals with international and comparative law/policy of water resources, fisheries, land, oceans and seas, wildlife, air, and nuclear power. Within the context of each of these topical areas, the course objectives are to define the "resource problem(s)"; analyze existing institutions (i.e., property rights, management systems, and allocation regimes) and their responses to the problem, and consider conceptual guidelines for improving institutional arrangements and individual actions.

Ms. Emel

Offered every other year

240 THE END OF AMERICA: LOS ANGELES/Lecture, Discussion

The modern city reflects the values and forces that have shaped Western culture in its westward course. In the last century the history of Los Angeles—the western end of American space—embodies better than that of any other city the polemic between traditional and technological notions of the modern city. It provides a unique, possibly the ultimate, model for the examination of the American cultural

spirit, perhaps even of the end of that spirit. This course is designed to explore the changing notions of the city and the American attitude toward the culture of cities through close examination of the history, geography, literature, and film associated with Los Angeles.

Mr. Bowden

Offered every other year

245 SENIOR SEMINAR IN HUMAN GEOGRAPHY/Senior Seminar

An examination of major topics, problems, and methodological issues in contemporary human geography which emphasizes original research. The senior seminar in human geography.

Ms. Hanson

Offered every year

246 TECHNOLOGY ASSESSMENT/Lecture, Seminar, Discussion

This course is focused on methods and techniques presently used to assess and evaluate the consequences of technologies. We define the term "technology assessment" and investigate the use of the term in various contexts. Case studies are presented. This course is part of the mandatory curriculum for ETS graduate students.

Mr. Renn

Offered every year

247 COMPUTER AND QUANTITATIVE METHODS IN GEOGRAPHY: INTERMEDIATE/Lecture, Laboratory

Focuses on the following topics: multiple correlation and regression (including the analysis of residuals); analysis of covariance, dummy variables, and other applications of the linear model; multivariate extensions of analysis of variance. In the labs associated with this course, students work with the BMDP and SPSS software packages and are introduced to computer programming. Prerequisite: Geography 110.

Staff

Offered periodically

251 SEMINAR: THE EARTH TRANSFORMED/Senior Seminar, Discussion

An advanced undergraduate seminar intended particularly for geography seniors to provide an integration of skills and concepts in environmental geography through the examination of concrete problems.

Staff

Offered every year

252 LOCATING HAZARDOUS FACILITIES/Seminar

This seminar provides a problem-oriented forum to study the problem of siting hazardous facilities. The course includes a review of the theoretical foundations that relate to facility location decisions, including discussions of efficiency and equity issues; an evaluation of analytical methods that have or can be applied to this policy decision problem; and a critical analysis of specific facility location case studies. The course consists of lectures, "hands on" problem analysis, and focused class discussions.

Mr. Ratick

Offered every year

253 NEW ENGLAND LANDSCAPE/Seminar, Field Trips

The course is introduced by an examination of the idea of landscape within the geographic endeavor, followed by a history of landscape studies in New England. Substantive field and library work focuses on houses and buildings, fences, walls, land use, and settlement patterns as they hang together to give character and distinctiveness—first, to the nine subcultural regions of coastal and valley New England settled in the "First Period" (to 1725); and second, to the areas of upland New England where the Yankee "folk-housing landscape" solution covered the

lands in the eighteenth century. An assessment of the landscape impact of commercial villages and greens and of the mills and mill villages, created 1790-1852, completes the course. Five half-day field trips to the Central Uplands and to the Connecticut Valley. Two three-day field trips: one to southern Rhode Island, the Old Colony and the Cape; another to the North Shore, eastern New Hampshire, and southern Maine. Motel accommodations and food on these weekend trips cost \$100-130 total.

Mr. Bowden

Offered every year

254 URBAN TRANSPORTATION: PROBLEMS AND PROSPECTS/Lecture, Discussion

What are the dimensions of the urban transportation problem? How can we analyze the problem so as to propose policies that might help to solve it? Topics include transportation and land use, transportation and energy, the car vs. public transit, and transportation and equity issues. We examine aggregate and disaggregate approaches to analyzing patterns of spatial behavior and evaluate the relative effectiveness of these approaches in posing solutions to urban transportation problems.

Ms. Hanson

Offered every other year

255 RISK PERCEPTION/Seminar

Based upon the main theories of object perception we investigate the intuitive mechanisms of people to collect and assimilate information about activities and events with uncertain outcomes. Discussions focus on various coping strategies in handling risky situations and on the cognitive patterns related to the assessment of uncertain events. Two examinations and one research paper are required. Students should have a basic knowledge in ETS and/or psychology.

Mr. Renn

Offered every year

256 SEMINAR: PROBLEMS IN WATER RESOURCES PLANNING/Seminar

Water resources planning techniques and water resources engineering. Economic, social, and environmental topics are reviewed and applied in a realistic planning exercise. Students, working in groups, prepare for a selected region or river basin, a preliminary planning document that could be used as a guide for future detailed planning. Emphasis is on the preparation and the written and oral presentation of the planning document in a professional manner that would be acceptable in the real world. Prerequisite: a 200-level course in environmental assessment; physical geography; economics; or environment, technology, and society; or permission of instructor.

Mr. Schwarz

Offered periodically

257 THEORY OF MULTI-OBJECTIVE RESOURCE EVALUATION/Lecture

Introduction to the theory of multi-objective resource evaluation. Presents the full range of criteria required for the economic, social, and environmental evaluation of resource programs and projects, together with selected applications.

Mr. Ratick

Offered periodically

258 SOUTH AFRICA AND DEVELOPMENT IN SOUTHERN AFRICA/Seminar

Examines problems of development in the Southern Africa region with particular reference to the SADCC countries and the impact of South Africa on political and socioeconomic change.

Ms. Seidman

Offered periodically

259 IMAGES, SYMBOL, AND MYTH IN THE AMERICAN WEST/Lecture, Discussion

From the first, Americans made the West what they wanted it to be: Garden of the World, Eldorado, Cibola, Passage to India, Great American Desert, Great Prairie, or Garden in the Grassland. A westering people invested this land with heroes, hunters, horse-riding Indians, trappers, scouts, cowboys, oil magnates, land boomers, and movie tycoons. The West presents a kaleidoscope of images of both outsiders and insiders, and this course considers the origins and changes in these images, their effects on behavior, and their imprint on the land. Emphasis throughout is on the methods and skills of those concerned with reconstructing the geographical knowledge (geosophy) of people of different backgrounds, roles, regions, and times.

Mr. Bowden

Offered every other year

260 PHYSICAL CLIMATOLOGY/Lecture

This course provides an in-depth background to physical climatology. Basic principles of energy transfer occurring at the earth's surface are developed, including solar radiation, longwave radiation, convection, conduction, and evapotranspiration. These are then applied to a series of environmental systems relevant to humans, including agricultural crops, natural vegetation, snow and ice, and urban climates. Prerequisite: Geography 122 or permission of instructor.

Staff

Offered every year

264 REGIONAL ECONOMIC AND SOCIAL DEVELOPMENT/Seminar

Regional development and underdevelopment theories are applied to the advanced capitalist countries. The course focuses on such issues as Frostbelt-Sunbelt competition, the underdevelopment and restructuring of old industrial regions, economic and social change in the New England region, and the role of the state in the process of regional economic development. Case studies of industrial decline and industrial growth—high technology industries—are presented.

Mr. Peet

Offered every other year

265 MONEY, BANKING, AND PUBLIC FINANCE IN DEVELOPING COUNTRIES/Seminar

Explores the consequences of alternative approaches to domestic and international banking and financial institutions and the role of government in finance development in Third World countries.

Ms. Seidman

Offered every year

266 QUANTITATIVE METHODS OF RISK ANALYSIS/Seminar

For advanced students, an introduction to quantitative methods in risk analysis, including fault-free analysis, dose-response models, risk benefit analysis, cost-effectiveness analysis, and quantitative methods for risk comparisons. Applications to auto accidents, nuclear power, cigarette smoking, and radiation health effects.

Ms. Brown

Offered every year

268 ANTHROGEOGRAPHY/Seminar

Theories of the relations between the natural environment and human nature, culture, and society. The works of Darwin, Spencer, Kropotkin, Marx, Semple, and Wittfogel are examined as precursors to modern theories of human-environmental relations.

Mr. Peet

Offered every other year

269 ENVIRONMENT AND DEVELOPMENT IN AFRICA/Lecture, Discussion
Efforts to promote economic growth in sub-Saharan Africa have resulted in mixed outcomes. Few successful development projects exist, and the difficulties posed by environmental constraints and human impacts on environment remain considerable. The complex relationship between nature, society, and technology in the use of Africa's resources is the focus of the course.

Mr. Johnson

Offered every other year

271 GROUNDWATER HYDROLOGY AND MANAGEMENT/Lecture, Discussion

An introduction to both the geological and hydrological factors controlling the occurrence and development of groundwater and the methods and impacts of groundwater management.

Ms. Emel

Offered every year

272 INTERNATIONAL DIVISION OF LABOR/Seminar

As a result of the post-World War II revolution in technologies affecting transportation and communications, analysis of Third World development requires an understanding of the consequences of the increasingly interrelated features of the global political economy. This course focuses on the role of transnational corporations and financial institutions in changing the international division of labor; and examines its impact on the living standards, working conditions, and incomes of workers in agriculture and industry in both developed and developing countries. Alone or in groups, students are expected to develop a term project assessing the way the changing international division of labor has affected development in a specific country or region of their choice.

Ms. Seidman

Offered every year

273 SEMINAR IN URBAN GEOGRAPHY/Seminar

Through readings and discussions, this seminar focuses on major research problems in urban geography. Each student formulates a research problem and designs and executes a research project. Prerequisites: Geography 110, 141, or permission.

Ms. Hanson, Mr. Angel

Offered every other year

274 SEMINAR IN CARTOGRAPHIC DESIGN/Seminar

Explores the common ground between graphic design/fine arts and cartography/geography in the area of map design. Draws upon a variety of approaches and methodologies, seeking points of consensus and clarity that can aid in both the understanding and making of maps. Capitalizes upon the different skills and interests of the professors involved and brings students into an active seminar exchange. Aspects covered include typography, color, psychophysical and cognitive approaches, aesthetics, communication and design theory, and the ideas of metacartography.

Mr. Steward, Mr. Eastman

Offered every year

275 CITIZEN PARTICIPATION: THEORY AND APPLICATION/Lecture, Discussion

Erosion of public confidence in the institutions and professionals charged with managing societal affairs has brought proposals that decision making be conducted more openly and with fuller citizen participation. This course explores a range of issues surrounding this theme. Major theories regarding the nature, goals, and forms of participation are examined, and contemporary experience with participatory programs is reviewed.

Mr. Kasperson

Offered every other year

276 CULTURAL ECOLOGY IN THE HUMID TROPICS/Lecture, Seminar

A mystique exists about the humid tropics. Mid-latitude biases have led to inaccurate assessments of the composition of these wet, hot lands; of traditional uses of them; and of their suitability, both past and present, to support large populations and high living standards. These issues are examined by focusing on the range of environments and livelihood strategies that have existed or could exist in this region.

Mr. Turner

Offered periodically

278 SEMINAR IN AFRICAN RIVER BASIN DEVELOPMENT/Seminar

Based on the experiences gained during research on the development of African river basins, research performed under a multiyear U.S. A.I.D.-sponsored program, the course focuses on the problems, failures, and successes in African river basin development. Using the research reports prepared and the background material collected, the seminar critically examines planning, implementation, and operation of large scale river basin projects. Special emphasis is on the relation between technical performance and the social, environmental, and economic impacts on local communities, the region, and the national governments involved. Students research specific subjects or geographic areas and present short papers on their individual work for discussion. The final is a major individual paper on one aspect or one basin.

Mr. Schwarz

Offered every other year

279 AMERICAN LANDSCAPE/Lecture, Field Trips

Every landscape contains a record of the history, ecology, values, and images of the culture(s) that produced it. Those messages are waiting to be read and interpreted by the informed observer. The American landscape encapsulates the American encounter with environment, the emergence of distinctive settlement and livelihood patterns, the dynamic tension between regional and national landscapes, and changing cultural attitudes toward the use and abuse of American space. An interdisciplinary approach featuring geographic, historical, literary, and artistic sources broadens this analysis of the contemporary landscape. Field trips required.

Mr. Johnson

Offered every other year

284 LANDSCAPES OF THE MIDDLE EAST/Lecture, Seminar

A diverse array of landscapes, economies, and cultures comprise the Middle Eastern culture realm. The modernization and transformation of the traditional Islamic and non-Islamic patterns of life and livelihood in the Middle Eastern cultural mosaic are the focus of this course. Literature and ethnographic description supplement geographic analysis.

Mr. Johnson

Offered every other year

287 SOCIOENVIRONMENTAL IMPACT ANALYSIS/Lecture, Discussion

Provides an overview of the theories, methods, and models used in assessing the social and environmental effects of planned development. Attention is given to both empirical and ethical issues and to developed and developing world contexts. Cases are analyzed in terms of the available policy and institutional means (such as social impact statements), as well as the critical literature on the subject. The goal is to equip the student with both analytical skills and a critical perspective necessary to evaluate the social aspects of major projects and facilities.

Mr. Mitchell

Offered every other year

289 PROBLEMS IN POLITICAL ECONOMY OF DEVELOPMENT/Seminar

Problems of underdevelopment are examined via class discussions and student

presentations. Typical problems covered include the industrialization of East Asia, the effects of underdevelopment on women, and regional development policy in Southern Africa.

Mr. Peet

Offered every year

291 JONAS AND SUSAN CLARK COLLECTION/Seminar

This is an upper-level multidisciplinary course which examines in detail the American landscape and European genre paintings of this small collection. The course considers the historical context in which the collection was formed, with special emphasis on the Clark's interest in paintings of women, nature, and oriental scenes.

Ms. Grad

Offered every other year

292 CARTOGRAPHIC DESIGN AND PRODUCTION/Lecture, Laboratory

A course concerned with the design and production of full-color printed maps. The principles and procedures of offset lithographic printing, photomechanical production (e.g. scribing), phototypesetting, process photography, process color and nonprinting reprographic techniques are discussed. In the laboratory sections, students compile, design, and produce a full-color map to a color proof stage. Prerequisite: Geography 181 or permission of instructor.

Mr. Eastman

Offered every year

293 OVERCOMING WORLD HUNGER—AGRICULTURAL RESEARCH AND INTERNATIONAL DEVELOPMENT/Seminar

This course reviews the achievements, shortcomings, and prospects for agricultural research in resolving problems of production in developing countries. Agricultural research over the past decades has been characterized by significant technological breakthroughs and improvements, and at the same time, by widespread policy breakdown in the use of technological improvements. The identification of successes and failures in the agricultural development process triggered responses, both within the international agricultural research centers and academic institutions in the developed world. This course will treat the changes of the past decades, and especially focus on strategies such as farming systems research, which attempt to introduce social considerations into agricultural research.

Mr. Jones

Offered every year

294 PROBLEMS IN CARTOGRAPHY/Senior Seminar

An examination of perennial and new problems in cartography ranging from considerations of a philosophical and historical nature to the concerns of contemporary mapping. Prerequisite: permission of instructor.

Mr. Steward, Mr. Eastman

Offered every year

295 AGRICULTURE IN THIRD WORLD ECONOMIES/Seminar

Consumption and commodity agriculture in the non-Western world is explored. Emphasis is placed on the economic behavior and livelihood strategies employed in these economies and on the theories of agricultural change.

Mr. Turner

Offered periodically

296 REMOTE SENSING PROJECT WORK/Lecture, Laboratory

A more detailed consideration of the use of remote sensing for environmental analysis, particularly land use. Includes a class remote sensing project and fieldwork.

Mr. Steward, Mr. Eastman

Offered every year

297 GEOGRAPHIC INFORMATION SYSTEMS/Lecture, Laboratory

A broad introduction to computer-assisted systems for geographic display and analysis. Lectures stress the fundamental logic and scope of problem solving, using each of the two main types of systems (grid- and polygon-based). Laboratory exercises allow students to become familiar with two mainframe and microcomputer GIS software systems currently operated by the Graduate School of Geography. Although the course is computer-oriented, no programming is involved.

Mr. Eastman

Offered every year

298 INTRODUCTION TO AUTOMATED CARTOGRAPHY/Lecture

A "hands on" introduction to the fundamentals of automated cartography. Using color graphics, microcomputers, and the PASCAL computer language, the course explores the potential and reality of computer-assisted geographic display and analysis. Topics covered include programming logic for computer graphics, data structures for geographic information, thematic and general reference mapping, and geographic information systems. Programming is taught as an integral part of the course, which requires no previous computer background. Prerequisite: Geography 181 or permission of instructor.

Mr. Eastman

Offered every year

300 ADVANCED TOPICS IN PHYSICAL GEOGRAPHY/Seminar

Theories and concepts in specific areas of physical geography are examined at an advanced graduate level, in the context of a research seminar. Specific topics are focused on research interests of the faculty and students taking the course. Prerequisite: permission of instructor.

Mr. Lewis, Ms. Emel, Mr. Herwitz

Offered periodically

301 SOIL-WATER-PLANT RELATIONSHIPS/Seminar

Advanced seminar examining the current scientific literature on transpiration under contrasting environmental conditions ranging from deserts to the humid tropics. Issues relating to the movement and availability of soil water, water uptake and water movement in plants, productivity-transpiration relationships, and methods of measuring transpiration in the field are considered in detail.

Mr. Herwitz, Ms. Emel

Offered periodically

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY/Seminar

Designed for thesis- and dissertation-level students working in the areas of resources, development, and environmental cognition, who are developing proposals or preproposal research papers. The seminar provides a forum for discussion, criticism, and practical advice.

Staff

Offered periodically

312 SEMINAR: AGRICULTURE AND DEVELOPMENT/Seminar

A reading seminar on major interdisciplinary themes dealing with various aspects of agricultural growth and development among traditional farmers and Third World countries. Issues of study include growth vs. development, transitional farming behavior, and constraints to production.

Mr. Turner

Offered periodically

314 RESEARCH DESIGN, RESEARCH METHODS/Seminar

Covers all the major topics in research design and methodology: e.g., problem definition, research strategies, measurement, sampling, and data collection techniques and procedures. Meets first-year core course requirement for geography graduate students.

Mr. Mitchell

Offered every year

318 EXPLANATION IN GEOGRAPHY/Seminar

Varying views of explanation, including positivist, realist, and conventionalist, are explored. Particular attention is given to the tensions between structural and nonstructural explanation and the integration of theory and empirical facts. Meets first-year core course requirement for geography graduate students.

Staff

Offered every year

330 SEMINAR IN CULTURAL ECOLOGY/Seminar

The "ecological transition," the increasing incorporation of nature into human culture, is the point of departure for an examination of the theory, method, and policy relevance of cultural ecology. Prerequisite: Geography 177 or equivalent.

Mr. Johnson, Mr. Turner

Offered periodically

336 HOUSEHOLD ECONOMIC BEHAVIOR AND THE GEOGRAPHY OF DEVELOPMENT/Lecture, Discussion

Explores the nature and role of the household as a socioeconomic organization and semisubsistence farm households, migration, urban-rural linkages, gender and age divisions of labor, women farmers, and cash crop versus food crop. Decision-making theory and the economics of household production are studied as a basis for household-level research on resource management.

Staff

Offered periodically

338 SEMINAR IN INDUSTRIAL GEOGRAPHY/Seminar

Surveys recent trends in industrial geographic theory in response to the internationalization of capital and the rapidly changing futures of old industrial regions.

Mr. Peet, Mr. Karaska

Offered periodically

340 ECOLOGY AND PREHISTORY/Seminar

Explores various topics of cultural ecology in prehistory. Thematic content varies but can include: rise and fall of populations, origins of domestication, environment and rise of civilizations, and others.

Mr. Johnson, Mr. Turner

Offered periodically

348 RESEARCH SEMINAR IN HAZARD MANAGEMENT/Seminar

Advanced research in the theory and analysis of hazard management with particular attention to decision making and political conflict.

Mr. Kasperson

Offered periodically

350 NATURE, SOCIETY, AND TECHNOLOGY/Seminar

Examines theories and major research findings on the relationship between human societies and the natural environment.

Mr. Mitchell

Offered every other year

351 SEMINAR IN RESOURCE GEOGRAPHY: THEORY AND METHOD/Seminar

Examination of major theories and methods of resource estimation, allocation, and management, providing coverage of the scholarly literature of the field.

Ms. Emel

Offered every other year

360 DEVELOPMENT THEORIES AND PHILOSOPHIES OF CHANGE/Seminar

A graduate seminar examining development theory relating theory, issues, and practice, with an emphasis on the evaluation of ideas and the search for alternative approaches to development interventions.

Staff

Offered every other year

362 SEMINAR IN GEOMORPHOLOGY/Seminar

Explores patterns of thought in modern geomorphology focusing particularly on fluvial and mass wasting processes acting directly on hill slopes, and lands affected by human activities.

Staff

Offered periodically

365 SEMINAR IN SOCIAL AND ECONOMIC GEOGRAPHY/Seminar

Theories of regional development and underdevelopment, industrial restructuring, and the role of the state are examined at an advanced level. A background in underdevelopment theory is required.

Mr. Peet

Offered every year

367 IDEAS OF CULTURE/Seminar

The quest of cultural geography is to bring the ideas of culture embedded in the humanities and the sciences to an understanding of geography's traditional concerns—place and space, ecology, and landscape. Culture is defined as the ideal (a state or habit of mind), the documentary (a body of intellectual and moral activities), and the social (a whole way of life which expresses certain meanings and values not only in art and learning, but also in institutions and social behavior) (Raymond Williams). Examines the meanings of culture in geography; the relations between culture and humanism, and society and economy; and the historical and philosophical underpinnings of the concept.

Mr. Bowden

Offered periodically

368 COLLOQUIUM: THE DEVELOPMENT OF WESTERN GEOGRAPHIC THOUGHT/Discussion

After a brief survey of Western geography from classical times, the colloquium examines the principal paradigms, themes, and debates within the discipline in the twentieth century and the professional structure of the field as it exists in research, education, and applied contexts. Designed primarily for graduate students in geography who want a general overview of their intended profession. Meets first year core course requirement for geography graduate students.

Mr. Koelsch

Offered every year (not offered 1988-89)

369 SEMINAR IN ENVIRONMENT AND DEVELOPMENT/Seminar

The complex, often counter-intuitive, linkages between nature, society, and technology have produced more failures in attaining development objectives than successes. The seminar focuses on exploring reasons and explanations for this mixed result. Case studies from a wide range of economic, social, and environmental settings are examined to isolate principles of successful development.

Mr. Johnson

Offered every other year

370 ANIMAL AGRICULTURE/Lecture, Discussion

Animals and humans have a long history of close association. First as hunters and then as domesticators, humans have relied on animals for food, fiber, labor, and companionship. The ecology of many diseases also links people to the animals that they exploit. Today animals play an increasingly important role in efforts to increase food production and to improve diet quality in support of a growing human population. Both terrestrial and aquatic animal systems, and the theory and practice of their intensified exploitation, are examined in this seminar.

Mr. Johnson

Offered every other year

373 SEMINAR IN URBAN GEOGRAPHY/Seminar

Through readings and discussion, this seminar focuses on major research problems

in urban geography. Each student formulates a research problem and designs and executes a research project. Prerequisite: permission of instructor.

Ms. Hanson

Offered every other year

395 ECONOMIC DEVELOPMENT AND POLICY ANALYSIS/Seminar

This course reviews alternative approaches to planning for development in the Third World, ranging from that proposed by the World Bank and IMF to that suggested by a socialist perspective. It explores the issues relating to institutional change required to implement alternative kinds of plans in industry, agriculture, trade, and finance. Students are expected to develop (alone or working in groups) a term project critiquing the formulation and implementation of development plans in any developing country they select.

Ms. Seidman

Offered every year

Geology

PARTICIPATING FACULTY

Jacque L. Emel, Ph.D.: water resources, soils

Stanley R. Herwitz, Ph.D.: geomorphology, hydrology, field methods

Laurence A. Lewis, Ph.D.: geomorphology, soils

UNDERGRADUATE COURSES

Although no formal program in geology exists, several introductory courses are offered each year, and more advanced courses are offered periodically. Students interested in geological studies can prepare for advanced work in the discipline by taking basic courses in the physical sciences and mathematics along with some of the courses listed below. Students interested in the geological sciences should contact the Graduate School of Geography or one of the participating faculty to plan an appropriate major leading to graduate work in the area.

025 EARTH SCIENCE AND DEVELOPMENT/Lecture

The physical constraints on the development of agricultural resources, provision of water supplies, and urbanization are evaluated. The focus is on characteristics and issues central to the management of environmental resources, with emphasis on the range of physical environments found in Africa, Central America, and South America.

Mr. Lewis

Offered periodically

100 INTRODUCTION TO GEOLOGY/Lecture, Laboratory

An introduction to the basic principles of physical and historical geology. Topics covered include the formation of earth and earth materials, plate tectonics, land-form evolution, glaciology, and the history of life. The processes that shape the surfaces of other planets in our solar system are also considered.

Mr. Herwitz

Offered every year

114 GEOMORPHOLOGY/Lecture

The theory of plate tectonics is explored in relation to the uplift of mountains, tectonics, and volcanism. The gradual wearing down of the earth's surface by hydrological processes is emphasized in the latter part of the course. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Mr. Lewis

Offered every year

115 HYDROLOGY/Lecture

Provides an overview of the hydrologic cycle and its major components including precipitation, evapotranspiration, soil moisture, surface water runoff, and groundwater flow. The course focuses upon the role of water as a unifying concept in environmental science. Examines human modification of natural hydrologic regimes. Prerequisite: Geography 014 preferred, but not required.

Staff

Offered every year

118 ENVIRONMENTAL GEOLOGY/Lecture

Examination of the basic concepts and processes within the earth sciences relative to the evaluation of risks and decisions on future policies of land use and resource utilization. The emphasis is on aspects of the environment of particular interest to geographers, geologists, and planners. Prerequisite: Geography 014, Geology 100, or permission of instructor.

Staff

Offered every other year

124 SOIL SCIENCE/Lecture, Field Work

Designed for students interested in physical geography, agriculture, environmental management, and land use planning. Topics covered include soil genesis, chemistry, and physics. Specific management problems, including erosion and pollution, provide cases for understanding general principles. Fieldwork provides opportunities for students to learn basic sampling and monitoring techniques. No prerequisite, although chemistry would be useful.

Ms. Emel

Offered every other year

211 GEOMORPHOLOGY OF HUMID TROPICS/Lecture, Discussion

The humid tropics—home of the rainforest, dry forest, and savanna—are areas of special interest due to their fragility. Deep weathering of rocks, rapid soil erosion when the forest or grasses are removed, great rivers in the tropics, and the devastating impact of human intervention are among the topics explored. Prerequisite: Geography 114, Geology 114, or permission of instructor.

Mr. Lewis

Offered every other year

215 FLUVIAL GEOMORPHOLOGY/Lecture, Discussion

The focus is on the relations between hydrology and geomorphology. The basic properties of hydraulic geometry, erosion, and deposition are explored. Prerequisite: Geography 114 or Geology 114, or permission of instructor.

Mr. Lewis, Staff

Offered every other year

239 FIELD METHODS AND RESEARCH/Senior Seminar Project

Methods of measuring and monitoring the physical environment. Students have an opportunity to conduct field research and gain experience acquiring hydrological and ecological data from local forested ecosystems. Field and laboratory research leads to the preparation of a formal article that conforms to the specifications of a scientific journal. Prerequisite: permission of instructor.

Mr. Herwitz

Offered every year

271 HYDROGEOLOGY/Lecture, Discussion

An introduction to both the geological and hydrological factors controlling the occurrence and development of groundwater and the methods and impacts of groundwater management.

Staff

Offered every year

German

See Department of Foreign Languages and Literatures.

Government and International Relations

DEPARTMENT FACULTY

Cynthia H. Enloe, Ph.D., *chair*: women and politics, militarization, Asian politics, comparative politics, ethnic and racial politics

John C. Blydenburgh, Ph.D.: elections, polling, national politics, political psychology

Brian J. Cook, Ph.D.: public policy, public administration, environmental politics, bureaucratic politics

Beverly C. Grier, Ph.D.: African politics, international development, women's studies, U.S. black politics

Debra Gross, Ph.D.: American politics, interest groups, national institutions

Sharon Perlman Krefetz, Ph.D.: urban politics, suburban politics, women and politics

Knud Rasmussen, Ph.D.: political theory, European politics, business and politics

Robert Rosh, Ph.D.: international relations, arms in the Third World

Zenovia A. Sochor, Ph.D.: Soviet Union, comparative politics, foreign policy

ADJUNCT FACULTY

Robert F. Campbell, Ph.D.: Department of History

Ronald P. Formisano, Ph.D.: Department of History

Glen Gersmehl, M.A.: Peace Studies

Roger E. Kasperson, Ph.D.: Department of Geography

Barbara P. Thomas, Ph.D.: Department of International Development

EMERITUS

Morris H. Cohen, Ph.D.

VISITING FACULTY

Kathleen Bailey, M.A.: Soviet Union, comparative politics

George M. Lane, M.A.: U.S. foreign policy, arms control, Middle East politics

Gary Lehring, M.A.: American politics, American political theory

UNDERGRADUATE PROGRAM

The study of politics at Clark University is the study of some of the most important questions that face people of all countries: Should force be used in relations among competing interests? What are the rights of the individual versus the rights of the state? How can public policies affect unequal relations between women and men, and between different racial groups? Most important, who decides such questions and how? The department offers courses that address these questions and others in international relations, in American politics, and in comparative politics. The aim of the curriculum is to provide analytic concepts, relevant information, tools for investigation, and theoretical bases—all designed to enable the student to develop her or his own answers to these questions.

Requirements for the Major

The major is organized in such a way as to provide a general introduction to the study of politics as well as an opportunity to explore one particular subfield in greater depth. The subfields allow the student to concentrate in one area of politics. There are three subfields offered by the Government Department: American politics, comparative politics, and international relations.

Government majors must take fourteen courses in all. Although the number of required courses is fixed, students have a considerable amount of leeway in choosing particular courses. Most of the courses are in the Government Department. A few are from disciplines outside of the Government Department; these are intended to complement the study of politics with other perspectives, as well as to establish the relationship between government and other essential sectors of society. The fourteen required courses are divided into two categories:

—General government requirements: 7 courses

—Subfield specialization requirements: 7 courses

[NOTE: This fourteen-course requirement, including a one-seminar requirement for majors, begins with majors in the class graduating in 1992. Classes of 1989-1991 may fulfill the major with thirteen courses, including 3 in the subfield, no seminar required.]

General government requirements

Seven courses:

- (1) one introductory course, in addition to the introduction to a selected subfield specialization;
- (2) the economics course, *Issues and Perspectives*, (Economics 10);
- (3) one course in normative political theory, taken in the Government Department, or in the Philosophy Department *if* approved by the student's government adviser;
- (4) one course in research methods and skills; and
- (5-7) three government courses from *outside* one's chosen subfield.

Subfield specialization requirements

Seven courses:

- (8) the introductory course to one's chosen government subfield (*Introduction to American Government*, or *Introduction to International Relations*, or *Introduction to Comparative Politics*);
- (9-11) three additional government courses in one's chosen subfield (one of these three must be in the form of a seminar in one's subfield, taken in the junior or senior year); and
- (12-14) three courses, related to the subfield, from *outside* the Government Department. (A list of related courses is available from the Government and International Relations Department Office.) These three courses should be worked out with one's Government Department adviser.

In summary, a total of fourteen courses—ten in government, one in economics, and three from related disciplines—must be taken to fulfill the requirements for the government major.

The International Relations Concentration: An option

This is *above and beyond* the usual international relations subfield choice. It is *not* required.

The international relations concentration was established in 1980 in conjunction with the Department of History. Students choosing this concentration must still satisfy the general requirements for the government major including Economics 10 (*Issues and Perspectives*), political theory, research methods, a second introductory

course, and three other government courses not in the international relations subfield. The core of the concentration includes Government 169, History 238, Economics 108, and a seminar.

Students must then choose one of the following analytical clusters: world economics, comparative diplomacy, or a self-designed area studies. Students must take an additional three courses in one of these clusters. Students who complete the appropriate courses receive a notation on their final transcript: "Concentration in International Relations."

Internships and Study Abroad

Internships in local, state, and federal government agencies and in public interest groups can earn government major credits. Study abroad may also fulfill major requirements. Students should work with their faculty advisers to ensure that appropriate credits are earned through these valuable experiences.

Honors in Government

Students with a very good academic record by the end of the junior year may apply to the Honors Program in the Government Department. The Honors Program helps to expand research and writing skills through an in-depth systematic analysis of one specific topic. Students can achieve honors by successfully completing the Honors Program, which involves researching, writing, and defending a senior thesis.

Nonmajor Concentration

Certain fields of study can be taken as concentrations in addition to and complementary to the government major: American studies, women's studies, peace studies, and Jewish studies. Some of these concentration requirements may also fulfill government major requirements

Student Handbook

The Government Department publishes a handbook, which has a more extensive description of programs, courses, and faculty, as well as other information relevant to the major or interested student. Copies are available in the Academic Center, Room 302.

GENERAL COURSES

- 107 *Research Methods*
- 202 *Applications of Game Theory*
- 205 *Roots of Political Thought*
- 206 *Recent Political Theory*
- 229 *Seminar: Democratic and Social Theory*
- 248 *Political Psychology*
- 299 *Senior Thesis in Government and International Relations*
- 299.1 *Directed Readings*
- 299.5 *Special Projects*
- 299.9 *Internship*

AMERICAN POLITICS AND PUBLIC POLICY

- 150 *Introduction to American Government*
- 154 *Public Administration and Public Policy*
- 157 *The Politics of Environmental Issues*
- 170 *American Political Thought and Behavior*
- 172 *Suburbia: People and Politics*
- 175 *Women and Politics*
- 184 *Politics and Markets*
- 204 *The American Presidency*
- 209 *The U.S. Since 1945*

- 213 *Policy Analysis*
- 214 *Seminar in Business and Politics*
- 215 *State Government and Politics*
- 220 *Urban Government and Politics*
- 221 *Seminar in Public Policies and American Cities*
- 223 *Seminar: Suburban Policy Issues*
- 224 *Black Politics in the U.S.*
- 225 *Seminar: History of Afro-American Women*
- 230 *U.S. Parties and Elections*
- 231 *Seminar in Politics and Environment*
- 238 *Authority and Sexuality*
- 251 *American Political Parties and Pressure Groups*
- 254 *American Constitutional Law*
- 255 *The Legislative Process*
- 258 *Mass Media and American Politics*
- 269 *Public Policy and Machiavelli Revisited*
- 275 *Citizen Participation: Theory and Application*
- 281 *Politics of U.S. Bureaucracy*
- 282 *Seminar on Housing Policies*
- 292 *Organizational Behavior*
- 294 *Campaigns and Elections*

COMPARATIVE POLITICS

- 103 *Africa and the World*
- 106 *Introduction to Comparative Politics*
- 112 *Comparative Authoritarian Systems*
- 117 *Revolution and Political Violence*
- 125 *Developmental Problems*
- 136 *Sub-Saharan Africa: Issues and Problems*
- 178 *Politics and History of South Africa*
- 182 *Comparative European Political Systems*
- 207 *Politics and Development: Central America and Southern Africa*
- 208 *Comparative Politics of Women*
- 222 *Strategies of Development and Change in Communist Political Systems*
- 228 *Comparative Politics of Race, Ethnicity, and Gender*
- 235 *Comparative Bureaucratic Politics*
- 236 *Politics of Southeast Asia*
- 237 *Politics of Scandinavia*
- 256 *Government and Politics of the Soviet Union*
- 261 *Women and Militarization in a Comparative Politics Perspective*
- 262 *Comparative Politics of Women and Labor*
- 265 *Politics of Japan*
- 287 *Advanced Topics in the Soviet Union*

INTERNATIONAL RELATIONS

- 103 *Africa and the World*
- 111 *Survey of Peace Studies*
- 169 *Introduction to International Relations*
- 173 *Politics of War and Peace*
- 179 *Comparative Foreign Policy*
- 210 *Organizations in World Politics*
- 211 *Model United Nations*
- 234 *Seminar: Arms Control*
- 245 *U.S. Foreign Policy—Middle East*

- 249 *International Political Economy*
 280 *Soviet Foreign Policy*
 283 *The Superpowers and the Third World*
 285 *Special Topics in Peace Studies*
 289 *Advanced Topics in International Relations*

COURSES

103 AFRICA AND THE WORLD/Lecture, Discussion

Refer to description under History 60.

Ms. Grier

Offered every other year

106 INTRODUCTION TO COMPARATIVE POLITICS/Lecture, Discussion

This course concentrates on two countries' politics each term: Britain and Mexico one year, and France and Canada in the alternate year. By looking at two countries in depth the course explores political issues common to all countries, such as the role of the military, the relations between ethnic groups, and the changing character of legislatures and political parties. Open to majors and nonmajors.

Ms. Enloe

Offered every year

107 RESEARCH METHODS/Lecture, Discussion

The focus of this course is the logic of the research process: from developing a research design (e.g., formulating and stating testable hypotheses, and operationalizing concepts) to collecting appropriate data (e.g., using the computer to generate contingency tables and calculate measures of association). The broad concepts that underlie various methods and techniques are considered, as are statistical manipulations necessary to employ them. Students use data sets surveying political attitudes and behavior in recent U.S. elections for homework assignments and computer projects.

Mr. Blydenburgh, Ms. Krefetz

Offered every year

111 SURVEY OF PEACE STUDIES/Lecture, Discussion

Refer to course description under Peace Studies.

Staff

Offered every year

112 COMPARATIVE AUTHORITARIAN SYSTEMS/Lecture, Discussion

This course focuses on the most conspicuous political fact of modern times—authoritarianism. Through a comparative study of several authoritarian regimes, the course seeks to understand the dynamics of modern authoritarianism: its inception and structure, its transitional or permanent nature, and its distinct variations. The course first examines prevalent historical examples (e.g., Hitler's Germany or Franco's Spain) and then selects contemporary case studies from Europe, Latin America, and the Middle East.

Ms. Sochor

Offered every other year

117 REVOLUTION AND POLITICAL VIOLENCE/Lecture, Discussion

This course analyzes the concept, the causes, and the process of revolution. The course explores the distinctions between revolution and other forms of political violence such as terrorism, rebellion, and coups. It also reviews general theories of revolution in order to gain some appreciation of the difficulties, peculiarities, and goals of specific revolutionary movements. The course focuses on the Russian and Chinese revolutions as twentieth-century prototypes; it then draws comparisons to recent revolutions in the Middle East and Latin America.

Ms. Sochor

Offered every other year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Refer to course description under International Development 125.

Ms. Thomas

Offered every year

136 SUB-SAHARAN AFRICA: ISSUES AND PROBLEMS/Lecture, Discussion

Refer to course description under International Development 136.

Ms. Grier, Ms. Thomas

Offered every other year

150 INTRODUCTION TO AMERICAN GOVERNMENT/Lecture, Discussion

This course is an introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism; salient civil liberties issues; and the roles of Congress, the president, the Supreme Court, and political parties in the decision-making process.

Mr. Blydenburgh, Mr. Cook

Offered every semester

Ms. Gross, Mr. Lehning

154 PUBLIC ADMINISTRATION AND PUBLIC POLICY/Lecture, Discussion

This course offers an introduction to policy making and public administration at the national level. Different frameworks for understanding policy making are reviewed. Both the political choice and production stages of policy making are examined by focusing on the roles of and interactions among the principal policy making institutions: the presidency, Congress, and the federal bureaucracy. The assignments emphasize conceptual understanding and application to current policy issues. Beyond lectures and discussions, class meetings may include simulations, experiments, and student presentations. Government 150 is strongly recommended, but not required. (Government 154 was formerly Government 109.)

Mr. Cook

Offered every year

157 THE POLITICS OF ENVIRONMENTAL ISSUES/Lecture, Discussion

Modern environmental problems have significant social, economic, and political roots. This course is intended to provide the student with a basic understanding of those critical dimensions of environmental issues. The course considers the sources of environmental problems, how issues arise, how policies have been formulated, and what effects the policies have had. The general topics covered include the physical nature of pollution problems, the social and political dynamics of pollution problems, and the development of environmental policy in the U.S. A number of current environmental problems are reviewed through films, student presentations, and direct investigation.

Mr. Cook

Offered every year

169 INTRODUCTION TO INTERNATIONAL RELATIONS/Lecture, Discussion

This course is designed to equip the student with the analytic and conceptual tools to make sense out of the many complexities of international politics. The first part of the course is organized around the concepts of nation-state, sovereignty, power, perception, system, intervention, verbal strategy, and reciprocity. Next, it explores the nuclear relationship between the Soviet Union and the United States in some detail. The final section of the course takes up topics related to North-South relations, the gap between rich and poor nations, and different development strategies. Particular attention is paid to global corporations, global debt, the International Monetary Fund, and the changing international division of labor.

Mr. Rosh

Offered every year

170 AMERICAN POLITICAL THOUGHT AND BEHAVIOR/Lecture, Discussion

There are three major foci for this course: (1) some of the most important ideas that have formed a distinctive American political culture—our shared values, beliefs, attitudes, and expectations of government; (2) how this culture is transmitted by society, i.e., the process of political socialization, through which our political orientations and behavioral predispositions are shaped; and (3) contemporary political attitudes and behavior in the U.S., especially voting in recent presidential elections by various groups, such as women, blacks, Jews, and Catholics.

Ms. Krefetz

Offered periodically

172 SUBURBIA: PEOPLE AND POLITICS/Lecture, Discussion

The growth of suburbs in the United States since the end of World War II has had considerable impact upon the nature of our metropolitan areas. This course focuses on the following questions: Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What are the patterns of policy making in issues such as education, zoning, and property taxes?

Ms. Krefetz

Offered every other year

173 POLITICS OF WAR AND PEACE/Lecture, Discussion

This course is designed to provide students with an opportunity to examine some of the principal actors and policy-making processes concerning issues of war and peace. It focuses on the post-World War II period in the U.S.—especially the past decade—although comparisons are made with other countries and historical periods. Traditionally, political science and history courses have viewed these issues from the standpoint of political leaders or generals, wars, and conflicts. In this course the primary emphasis is placed on the role of citizens and interest groups, and on the processes of peacemaking.

Mr. Gersmehl

Offered every year

175 WOMEN AND POLITICS/Lecture, Discussion

This course explores the political attitudes, behavior, and status of women in the United States. Views on the nature of women and their "proper" role in society and the state, set forth by classical political philosophers in ancient times, are contrasted with ideas introduced by women's rights theorists, beginning in the eighteenth century. The rise of the women's movement in the nineteenth century and the battle for female suffrage are considered as a backdrop for understanding the rebirth of feminism in the 1960s and the struggle over the Equal Rights Amendment. Other major topics deal with contemporary American politics, including: gender differences in political socialization and political participation, the "gender gap" in voting preferences, women as politicians and bureaucrats, and efforts by women to influence public policies such as abortion and equal credit.

Ms. Krefetz

Offered every year

178 POLITICS AND HISTORY OF SOUTH AFRICA/Lecture, Discussion

The aim of the course is to acquaint students with the forces that have shaped the political system in South Africa today. The structure of the economy (mining, agriculture, and industry) is examined with particular attention being paid to the role of black labor. The rise and consolidation of Afrikaner nationalism, the introduction and implementation of apartheid, the response of blacks to apartheid and to growing rural and urban poverty, and South Africa's policy toward neighboring African countries are among the topics discussed. The economic and political

role played by American investment in South Africa is explored, as is official U.S. policy toward the country.

Ms. Grier

Offered every year

179 COMPARATIVE FOREIGN POLICY/Lecture, Discussion

This course explores the factors that influence the formulation and execution of foreign policy. Attention is accorded to the international setting of foreign policy making as well as the domestic sources of foreign policy behavior. Comparisons and contrasts are drawn among several countries in order to gain insight into the range of foreign policy options, constraints, and strategies. Particular attention is given to European and Soviet foreign policy.

Ms. Sochor

Offered every other year

182 COMPARATIVE EUROPEAN POLITICAL SYSTEMS/Lecture, Discussion

A comparative study of the major Western European political systems. Study of the political historic development will lay the basis for comparison of modern functions of government. Emphasis is placed on systemic analysis and its importance for comparative politics.

Mr. Rasmussen

Offered every year

184 POLITICS AND MARKETS/Lecture, Discussion

American understanding of democracy, indeed all politics, is permeated by economic concepts and the "market ideal." We are quick to identify a democracy in another nation when we see some semblance of a market economy. But are the concepts of market economics suitable to explaining the workings of a democratic political system? An answer to this question is sought through the analysis of American national government and politics with economic tools, to see where these tools are and are not appropriately applied.

Mr. Blydenburgh

Offered every year

202 APPLICATIONS OF GAME THEORY/Lecture, Discussion

Game theory was invented by John Von Neuman in the 1920s as a language and a logic for analyzing human conflict. It purports to be useful (and your professor believes it is) to systematically identify the best strategies for resolving many types of conflicts. Emphasis in this course is on understanding and applying the language and the logic. But a substantial amount of the course deals with applications and illustrations, for example, to international relations, nuclear confrontation, political campaigning, and a host of other real-life situations. Emphasis is on "two-person" models with a selective review of "n-person" models. Students learn how to use bargaining, threats, commitments, mediators, ignorance, and power in resolving conflicts.

Mr. Blydenburgh

Offered every other year

204 THE AMERICAN PRESIDENCY/Lecture, Discussion

This course focuses on the office of the presidency and the various leadership styles of American presidents. We examine the president's changing role in American politics; the evolution of the modern presidency; and the selection and nomination process and presidential character. This course takes a critical look at the office of president and proposes reforms for the future.

Ms. Gross

Offered every year

205 ROOTS OF POLITICAL THOUGHT/Lecture, Discussion

This is a study of the development of Western political thought from the Socratic

philosophers to Hobbes. Trend-setting philosophers and ideas that have transcended their time are given special attention. The evolution of political thought is discussed in the context of influential social, political, and economic forces.

Mr. Rasmussen

Offered every year

206 RECENT POLITICAL THEORY/Lecture, Discussion

A study of modern political theory as developed in the context of the social, political, and economic forces that have shaped Western thought since the French Revolution. Socialism, democracy, and conservatism are discussed in both an evolutionary and contemporary setting.

Mr. Rasmussen

Offered every year

207 POLITICS AND DEVELOPMENT: CENTRAL AMERICA AND SOUTHERN AFRICA/Lecture, Discussion

The course examines the theoretical debates surrounding concepts such as development, modernization, underdevelopment, and dependency. It looks in some detail at the politics of development in two countries: one in Central America and one in Southern Africa. The role of political parties, the bureaucracy, the military, the extremes of wealth and poverty, and the impact of global economic and political forces on these countries are examined.

Ms. Grier

Offered every year

208 COMPARATIVE POLITICS OF WOMEN/Lecture, Discussion

This course examines the roles, priorities, strategies, and theories of women in Britain, the Soviet Union, and one Third World country. Causes for changes—and lack of genuine changes—in women's political status are investigated to shed new light on those countries' political systems. The politics of industrialization, revolution, sexuality, labor, cross-race alliances, and the family are discussed. One or more previous courses in government or in women's studies is strongly advised.

Ms. Enloe

Offered every year

209 THE U.S. SINCE 1945/Lecture

Refer to course description under History 209.

210 INTERNATIONAL ORGANIZATIONS IN WORLD POLITICS/Lecture, Discussion

Thirty years ago international organizations such as the United Nations expressed the hopes of human society for a more peaceful world order. These utopian hopes were soon disappointed and interest in such organizations waned. More recently the perception of interpenetration of national economies; the recognition that energy, environmental, and disarmament issues, among others, are global problems; and the development of a Third World alliance have regenerated interest in international organizations. This course surveys functionalism, neo-functionalism, and supranationalism as explanations of the emergence of such organizations. It also examines selected international organizations such as the OAS, the EEC, OPEC, and the World Bank. Extensive attention is paid to the United Nations system in all its complexity. Government 169 is recommended.

Mr. Rosh

Offered periodically

211 MODEL UNITED NATIONS/Lecture, Discussion

The core component of this course is participation in the Harvard National United Nations Conference and National Model U.N. Conferences. The members of the class represent Clark University at the conference by acting as delegates from nation-states. Issues ranging from disarmament to human rights to current political

crises are researched. Students prepare resolutions and speeches and learn the rules of procedure operative at the United Nations. Oral reports and a written paper also are required. Open to all qualified students, though class size is limited and permission of the instructor is required. Government 210 or relevant experience strongly recommended.

Mr. Rosh

Offered every year

213 POLICY ANALYSIS/Lecture, Discussion

Policy analysis is broadly understood as the application of social science to public problems. The roots of policy analysis are multidisciplinary, with major theoretical and methodological contributions made by economics and political science. This course examines the epistemological underpinnings and general techniques employed in analysis. The objective is to provide students with the ability to understand critical public problems in multidimensional ways and to recognize under what circumstances particular techniques are appropriate. The major assignment is participation in a class project analyzing a current policy problem. Government 107 or Economics 160 and some exposure to microeconomics strongly recommended. Limited to juniors and seniors.

Mr. Cook

Offered every other year

214 SEMINAR IN BUSINESS AND POLITICS/Seminar

This course examines the social role of business from a theoretical and a practical point of view. The theoretical aspects are explored through a series of readings of major writers in this area. The practical aspects are dealt with through the use of community resources. This course permits individualized reports in specific areas of interest. Enrollment is limited to twenty students.

Mr. Rasmussen

Offered every other year

215 STATE GOVERNMENT AND POLITICS/Lecture, Discussion

This is an overview of the operation of state governments, explaining the distinctive features of states in terms of their individual political, economic, historical, legal, and demographic characteristics. The focus is on how these features explain state political systems in the present and how they are likely to shape the states of the future. Special attention is given to Massachusetts and other northeastern states. Prerequisite: Government 150.

Mr. Blydenburgh

Offered every other year

220 URBAN GOVERNMENT AND POLITICS/Lecture, Discussion

The primary focus is on the various socioeconomic and political forces that affect American urban politics and policy making. Topics discussed include: the social, economic, and political nature of the city; the fiscal crisis; federal and state urban policies; relations between city and suburb; political machines and reformers; the community power debate; mayoral power and styles; city employees; black political participation; and the politics of urban redevelopment and gentrification.

Ms. Krefetz

Offered every year

221 SEMINAR IN PUBLIC POLICIES AND AMERICAN CITIES/Seminar

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, housing, urban redevelopment, poverty, the police, and education; and what accounts for the differences? Special attention is given to the political aspects of the implementation process and to issues concerning the equity of services delivered. After a critical review of the existing literature, research is conducted on a policy area of the

student's choosing in Worcester and/or other cities. When possible, internships with appropriate city agencies or officials will be arranged. Government 220 or permission of instructor.
Ms. Krefetz

Offered every other year

222 COMMUNIST POLITICAL SYSTEMS: DEVELOPMENT AND CHANGE/Lecture, Discussion

This course examines the relationship among ideology, political power, and levels of economic development in the formation of communist political systems. Several questions are considered: How do political leaders pursue the potentially contradictory goals of development and revolution, and what are the trade-offs? Does the Soviet Union provide a model to emulate or to reject? What alternative strategies are involved? What are the compelling sources of change as well as limits to change? In seeking to provide answers, the course concentrates on Eastern Europe; some of the unique experiences of China and Cuba are also taken into account.

Ms. Sochor

Offered every other year

223 SUBURBAN POLICY ISSUES/Seminar

This course picks up where the introductory suburban politics course leaves off and explores politics and policy making on several major issues in suburban communities, especially zoning and land use, education, and property taxes. Students conduct original research on these issues in Worcester and Boston suburbs. Prerequisite: Government 172 or permission of instructor.

Ms. Krefetz

Offered periodically

224 BLACK POLITICS IN THE UNITED STATES/Lecture, Discussion

In this course, we analyze the black political experience today and in the past. Among topics to be explored are: black theory and debate, black politics in cities and labor unions, blacks in the bureaucracy, black women, and a comparison of Northern and Southern black politics.

Ms. Grier

Offered every other year

225 SEMINAR: HISTORY OF AFRO-AMERICAN WOMEN/Seminar

Refer to course description under History 224.

Ms. Grier

Offered every other year

228 COMPARATIVE POLITICS OF RACE, ETHNICITY, AND GENDER/Lecture, Discussion

In this course, we explore the politics of "ethnicity" and "race" for groups as different as Asian-Americans, black Britons, South African Afrikaners, Soviet Muslims, French Canadians, and others in the politics of industrialized and Third World countries. The political interactions of sex, race, class, and state power are analyzed. Some previous study of international development, comparative politics, history, sociology, or women's studies would be very useful.

Ms. Enloe

Offered every other year

229 SEMINAR: DEMOCRATIC AND SOCIAL THEORY

"Democracy is the worst possible form of government but the only one acceptable until a better one is found." Twentieth-century critics of democracy are numerous but so are defenders. The concept's development, viability, and vitality are analyzed in this seminar, so are its different forms like liberal democracy, popular democracy, people's democracy, or social democracy. The pattern each form follows and the alternatives to democracy they produce are discussed. The focus of the seminar is

on political theory; a prior knowledge of practical politics and ideology traditionally identified as "ism" is helpful.

Mr. Rasmussen

Offered every year

230 U.S. ELECTIONS AND PARTIES 1789-1984/Lecture, Discussion

Refer to course description under History 229.

Mr. Formisano

Offered periodically

231 SEMINAR IN POLITICS AND ENVIRONMENT/Seminar

Refer to course description under Geography 231.

Mr. Kasperson

Offered periodically

234 SEMINAR: ARMS CONTROL/Seminar

Examines the key issues and current state of play in the major arms control negotiations involving the U.S. and the USSR. Also includes special concentration on specific topics such as verification, nuclear terrorism, command and control, and conventional arms control.

Mr. Lane

Offered periodically

235 COMPARATIVE BUREAUCRATIC POLITICS/Lecture, Discussion

In both industrial and Third World nations, bureaucrats and their agencies have shaped political decisions and their implementation. This course uses cases from Europe, Africa, and Asia to explore when bureaucrats are strong and when they are weak, and why it matters to ordinary citizens and elites. We look at politics from the point of view of people inside government agencies and also from the point of view of people whose lives are affected by those officials.

Ms. Enloe

Offered every other year

236 POLITICS OF PHILIPPINES AND VIETNAM/Lecture, Discussion

We analyze changes, and resistance to change that have occurred in these two countries. Peasant politics, nationalism, foreign investment, the military, ethnic politics, and women's politics are discussed. What this suggests about the entire region of Southeast Asia today is explored.

Ms. Enloe

Offered every other year

237 POLITICS OF SCANDINAVIA/Lecture, Discussion

This course analyzes twentieth-century political thinking with specific reference to Scandinavian thought and political systems. The examination is of major trends as they constitute unique Scandinavian developments or reflect a broader European pattern of thinking.

Mr. Rasmussen

Offered periodically

238 AUTHORITY AND SEXUALITY/Lecture, Discussion

This course seeks to understand how Western culture constructs personal and sexual relations in such a way as to invite scrutiny, regulation, invasion, and prohibition. We examine what is at issue when authority and sexuality come together, explore the threat(s) sexuality makes to the exercise of authority, and attempt to better understand the political history of sexual repression. In addition, this course confronts both contemporary and traditional assumptions about authority and sexuality including the conventional oppositions of public and private, government and self, self and other, heterosexual and homosexual, and rhetoric and politics as revealed through philosophy, psychoanalysis, literature, and political theory.

Mr. Lehring

Offered periodically

245 U.S. FOREIGN POLICY—MIDDLE EAST/Lecture, Discussion

This course provides an overview of U.S. foreign policy and diplomacy towards Israel and Arab countries since World War II. The first sessions review the factors that affect the formation and implementation of U.S. foreign policy in the Middle East, while the remaining sessions deal with the events of the last forty years in this general region. The focus is on U.S. interests and how they have been affected.

Mr. Lane

Offered periodically

248 POLITICAL PSYCHOLOGY/Lecture, Discussion

Twentieth-century Western societies have been strongly affected by the expansion of human consciousness through self-knowledge and technological change. However, simultaneous with the benefits of psychological development is the apparent rise of mass character disorders which are destructive of the essential values of Western culture. This seminar explores the psychological and historical roots of both changes, and their implications for democratic government and contemporary political movements. Open to juniors and seniors only.

Mr. Blydenburgh

Offered every year

249 INTERNATIONAL POLITICAL ECONOMY/Lecture, Discussion

Organized around the debate among world systems theory, Marxist theories of imperialism, and liberal developmentalism about the structure of the global economy. The evolution of the global economy from 1450 to the present is analyzed. Themes such as hegemonic cycles, underdevelopment, and imperial dominance organize the historical sections of the course. Finally, contemporary issues such as the changing international division of labor, the political economy of global debt, and the politics of primary commodity trade receive attention.

Mr. Rosh

Offered every other year

251 AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS/Lecture, Discussion

This course explains the primary importance of interest groups and political action committees in the American political system. Special emphasis is placed on theories of interest groups: why people join them, and why certain political groups fail to organize and make demands on government structures. Interest groups and political parties are compared and contrasted. The course also examines the degree to which parties have declined in importance in American politics.

Ms. Gross

Offered every year

254 AMERICAN CONSTITUTIONAL LAW/Lecture, Discussion

This course focuses on the historic and contemporary role of the Supreme Court in interpreting the Constitution. Topics include the nature of federalism, regulation of business, freedom of speech and religion, equal rights, rights of the accused, and the issues of prayer and abortion.

Mr. Campbell

Offered periodically

255 THE LEGISLATIVE PROCESS/Lecture, Discussion

An in-depth examination of the contemporary politics of the U.S. Congress from both an individual and institutional perspective. Major topics include congressional elections, differing views of representation, House-Senate differences, congressional policy making, relationships between Congress and the presidency, the bureaucracy and interest groups, and the future of the institution. Prerequisite: Government 150. Limited to juniors and seniors.

Ms. Gross

Offered every year

256 GOVERNMENT AND POLITICS OF THE SOVIET UNION/Lecture, Discussion

This course examines key factors in the formation and evolution of the Soviet political system. The first part of the course reviews critical junctures in Soviet political history; the second part focuses on the operation of the contemporary Soviet system. Attention is paid to the domestic and international challenges facing Soviet political leaders, the resources at hand, and the institutional framework for arriving at political solutions. Particularly interesting for discussion are the policy choices facing a new dynamic leadership after a prolonged stagnant period, during which problems were allowed to accumulate. Can Gorbachev make a difference?

Ms. Sochor

Offered every year

258 MASS MEDIA AND AMERICAN POLITICS/Lecture, Discussion

This course explores the profound effect of the media, electronic and print, on contemporary American politics. Emphasis is placed on the role of the media as policy makers and includes a discussion of the media's coverage of Vietnam, civil rights, and protest movements generally. The impact of the media on individuals, the media's coverage of elections and women candidates, and the legal and regulatory aspects of media intervention in politics are covered.

Ms. Gross

Offered every other year

261 WOMEN AND MILITARIZATION IN A COMPARATIVE POLITICS PERSPECTIVE/Seminar

We examine the analytical proposition that the process by which any country's military grows in influence is shaped by its ideas about "masculinity" and "femininity." We explore questions such as: What do women's own experiences in wartime and peacetime reveal about military politics? What do we reveal about militaries when we analyze governments' policies to use women as mothers, wives, workers, or prostitutes? Do racial and economic differences shape the military sexual division of labor? Countries such as Britain, Chile, the Philippines, and the U.S. are discussed. Previous government or women's studies courses are desirable. Limited to juniors, seniors, and graduate students.

Ms. Enloe

Offered every other year

262 COMPARATIVE POLITICS OF WOMEN AND LABOR/Seminar

Women's studies have opened the very meaning of "labor" to new interpretations. This course explores the relationship between paid and unpaid labor, as well as political alliances with men or across class and racial lines. The experiences of white women and women of color in the U.S., Canada, Europe, Africa, and Latin America are explored. Previous courses in women's studies, sociology, or comparative politics would be useful. Limited to juniors, seniors, and graduate students.

Ms. Enloe

Offered periodically

265 POLITICS OF JAPAN/Lecture, Discussion

Japan is considered one of the world's four great powers. Yet its domestic political dynamics are not widely understood by Americans. This course explores the major factors that have shaped Japanese politics and government policies since 1945. Among the topics to be analyzed are: the group loyalties of Japanese, the factional rivalries within major parties, the influence of bureaucrats, and the role of women and business in politics. The course is open to majors and nonmajors.

Ms. Enloe

Offered every other year

269 PUBLIC POLICY AND MACHIAVELLI REVISITED/Lecture, Discussion

This course offers an in-depth analysis of Machiavelli's political theory and approach to policy making. The course differentiates between normative theory and objective analysis. In the process, themes developed by Machiavelli are applied to current policy formation and models for public policy analysis.

Mr. Rasmussen

Offered every other year

275 CITIZEN PARTICIPATION: THEORY AND APPLICATION/Lecture, Discussion

Refer to course description under Geography 275.

Mr. Kasperson

Offered every other year

280 SOVIET FOREIGN POLICY/Lecture, Discussion

This course provides an overview of Soviet foreign policy from its uncertain beginnings as the first Marxist state to its contemporary position as a superpower. The course considers the problems and goals of the successive phases of Soviet foreign policy; it also examines the relative importance of domestic and international factors in the decision-making process. Emphasis is given to two areas of permanent concern to the Soviet leadership: U.S.-Soviet relations and control over Eastern Europe.

Ms. Sochor

Offered every other year

281 THE POLITICS OF BUREAUCRACY IN THE U.S./Seminar

Administrative agencies wield considerable power and policy-making authority in American politics. What distinguishes one agency from another? How do bureaucratic agencies derive their power? How do Congress and the president attempt to control the bureaucracy? What kind of politics prevails inside bureaucratic agencies? Case studies and student research provide the vehicles for exploring these questions in depth. Other American politics courses strongly recommended. Limited to juniors and seniors.

Mr. Cook

Offered every other year

282 SEMINAR ON HOUSING POLICIES/Seminar

This course focuses on the social, economic, and political factors that shape the federal government's housing policies and the implementation of housing programs by local governments in metropolitan areas of the United States. Among the major topics explored are: the myths and realities of public housing; urban renewal; gentrification; linkage; responses to homelessness; rent control; condominium conversions; and redlining, exclusionary zoning, and other forms of racial, gender, and income discrimination.

Ms. Krefetz

Offered every other year

283 SUPERPOWERS AND THE THIRD WORLD/Seminar

The purpose of this course is two-fold: (a) to consider the goals and policies of the superpowers toward the Third World, and (b) to examine specific case studies where these goals and policies were carried out, amended, or challenged. Some of the underlying questions posed in this course include: What are the superpowers' expectations of, and sources of influence on, the Third World? To what degree are North-South issues affected by East-West considerations? How are local problems exacerbated by superpower intervention? What are the long-range prospects for the international system as a whole?

Ms. Sochor

Offered every year

285 SPECIAL TOPICS IN PEACE STUDIES/Seminar

Refer to course description under Peace Studies.

Mr. Gersmehl

Offered every other year

287 ADVANCED TOPICS IN THE SOVIET UNION/Seminar

The course explores in greater depth some of the current challenges and problems facing the Soviet leadership. Topics may vary according to the changing Soviet political scene, and may include the following: the upsurge of ethnic and national consciousness and its implications for political stability; the urgent need to implement economic reform and yet maintain political control; the tension between a rigid ideology and a changing political culture; the impact of a conservative military establishment on foreign relations in flux, especially U.S.-Soviet relations.

Ms. Sochor, Ms. Bailey

Offered every other year

289 SEMINAR IN ADVANCED TOPICS IN INTERNATIONAL RELATIONS

The subject matter of this course varies from year to year, however, the format is that of a senior seminar. Either international relations theory in general is discussed and then applied by students in a 20 to 30 page research paper, or a specific topic is tackled in great depth. A midterm and a substantial final research paper are required.

Staff

Offered every year

292 ORGANIZATIONAL BEHAVIOR/Seminar

The core argument on which this course is based is that organizations, especially bureaucratic ones, are best understood as political entities. The principal issues concern how executives and managers design the control systems of bureaucracies to manipulate the behavior of subordinates, and how subordinates are able to resist such attempts at control. The principal schools of thought on organizational behavior, including scientific management, human relations, and neo-Weberian approaches are considered for their contributions to a political interpretation of organizational behavior. Case studies and student research provide the material for class discussions. Limited to juniors and seniors.

Mr. Cook

Offered every other year

294 CAMPAIGNS AND ELECTIONS/Seminar

Nowhere is the political impact of the new technologies of communication and information processing more powerful than in the electoral system. A corps of professional campaign managers has emerged, women and men whose expertise has changed the meaning of elections in American politics. This seminar seeks to develop an understanding of this new and volatile source of political power through readings, research, and illustration

Mr. Blydenburgh

Offered every other year

Hebrew

See Department of Foreign Languages and Literatures.

History

DEPARTMENT FACULTY

Paul S. Ropp, Ph.D., *chair*: Asian history, comparative history

George A. Billias, Ph.D.: Colonial American history, comparative history, military history

Daniel R. Borg, Ph.D.: modern German and European history, political history

Richard B. Ford, Ph.D.: African history, resource management, international development
 Ronald P. Formisano, Ph.D.: U.S. political and social history, nineteenth century and since 1945; social movements; community power; historical method
 Douglas J. Little, Ph.D.: U.S. diplomatic history, America since 1900, modern Latin America
 Paul Lucas, Ph.D.: Western civilization; Europe, especially England and France, 1500-1800; European intellectual history, 1650-1945
 Richard D. Ralston, Ph.D., The E. Franklin Frazier Visiting Professor for 1988-89.: African history, Afro-American studies

AFFILIATE AND ADJUNCT FACULTY

Douglas M. Astolfi, Ph.D.
 Thomas C. Barrow, Ph.D.
 Paul Burke Jr., Ph.D.
 Stuart W. Campbell, Ph.D.
 Maceo C. Dailey Jr., Ph.D.
 Everett Fox, Ph.D.
 Beverly C. Grier, Ph.D.
 William A. Koelsch, Ph.D.
 George M. Lane, M.A.
 Marcus A. McCorison, M.S.
 Richard P. Traina, Ph.D.

EMERITI

Robert F. Campbell, Ph.D.
 Theodore H. Von Laue, Ph.D.

UNDERGRADUATE PROGRAM

Despite Henry Ford's famous dictum that "history is more or less bunk," the study of the past provides fresh insights into the present and can even suggest the emerging contours of the future. Clark's History Department seeks to do both by bringing the past alive through nontraditional and interdisciplinary courses that emphasize trends and ideas rather than names and dates. Whether you are interested in colonial America or modern Africa, in family history or international relations, a careful look at yesterday may indicate what tomorrow holds in store.

Students choose a history major for different reasons. Those preparing for careers in government, law, and sometimes business choose the major for the opportunity to gain insight into the diversity of human affairs. They desire a humanistic study geared toward a practical end. Others view the history major as the broadest and most flexible one in which to study their particular interests from a number of perspectives. Some are committed historians before they arrive at Clark. Their counterparts are those who become history majors by a process of elimination. For history majors and nonmajors alike, history provides an insight into their own individual and collective pasts and, therefore, into their own identities. History courses also introduce students to the global dimensions of world civilization by providing an understanding of the historical evolution of other peoples and cultures.

UNDERGRADUATE MAJOR

The Major Requirements

(Note on course numbers: Two-digit courses are broad surveys especially designed for freshmen. The 100-level courses also serve as introductory surveys,

but they treat a narrower range of topics in greater depth. The 200-level courses, intended for juniors and seniors, normally have heavier reading and writing requirements than lower level courses.)

A. Students take nine history courses and any four nonhistory but related courses.

B. Of the nine history courses,

- 1) *One* must be a two-digit or 100-level course in one of the following four concentrations that you choose as the base for your major:

- a) In American history,

History 10, *Introduction to History and American Studies*

History 11, *Survey of U.S. History to 1877*

History 12, *Survey of U.S. History Since 1877*

History 16, *Race and Ethnicity in American History*

History 27, *American Family in Historical Perspective*

History 28, *Urban Communities in America*

History 135, *U.S. Social History: 1850 to Present*

- b) In European history,

History 70, *Our European Roots to the Renaissance and Reformation*

History 71, *Our European Roots from the 17th Century to the Present*

History 163, *Russia to 1917*

- c) In global history (non-U.S. and non-European)

History 31, *Great Books of China*

History 60, *Africa and the World*

History 80, *Introduction to Modern Asia*

History 90, *Survey of Twentieth-century Global History*

History 162, *The History of the Modern Middle East*

History 177, *Latin America Since 1825*

History 178, *Politics and History of South Africa*

History 179, *Traditional Africa*

History 180, *Modern Africa*

History 181, *Traditional China*

History 182, *Modern China*

History 184, *Modern Japan*

- d) In other concentrations, such as

- 1) Jewish studies History 174, *The Jewish Experience*

- 2) International Development History 125, *Development Problems*

- 3) Women's studies, black studies, other thematic studies of various types or self-designed concentrations. See the department chair.

- 4) Predesigned structured concentrations (American studies and international relations, Asian Studies, and Peace Studies). See relevant sections in this catalog.

- 2) *One* must be a two-digit or 100-level course outside of your chosen concentration,

- 3) *Two* must be 200-level courses within your chosen concentration,

- 4) *Two* must be 200-level courses outside of your chosen concentration,

- 5) *Two* may be any history courses that you wish to take on any level,

- 6) *One* must be a capstone course, usually taken in the senior year. Your capstone course should be either the departmental capstone seminar (History 295) or a course selected from one of the following: History 204, 292, or 296. In addition, proseminars in your area of concentration may be substituted as a capstone, with permission from the department chair. For honors majors, thesis research is considered to be the equivalent of a capstone course.

THE HONORS PROGRAM

The honors program in history is designed to provide a challenging set of advanced courses for outstanding history majors. The program is valuable not only for would-be professional historians, but also for anyone who intends to pursue a career that requires resourcefulness and excellent analytical and writing skills.

To complete the honors program successfully, you must meet the general requirements for the major, choose a field of concentration, and earn four honors credits as part of, or in some cases in addition to, the nine required history courses. More specifically, you will enter the program by taking a pre-honors seminar or proseminar (see below). Formal admission into the honors program is contingent upon the successful completion of your pre-honors seminar and upon evidence of outstanding work in your other history courses. Then, building on your work in the pre-honors course, you will write an extensive research thesis (two course credits) under the supervision of your adviser. Finally, in the spring semester of your senior year, you will undertake a directed readings course (one course credit) in the general field of your thesis topic. The program will culminate with a written examination in your field of concentration and an oral defense of your thesis. The written examination and the oral defense will be conducted by your honors committee, which will include your thesis adviser and two other members of the department. If the committee judges your work to merit the distinction of honors, your transcript will state that you majored in history with honors, with high honors, or with highest honors. If the committee finds the thesis or examination unsatisfactory for honors credit, you will receive ordinary history credit for the thesis and directed readings course; your transcript will state simply that you majored in history.

THE PRE-HONORS SEMINAR OR PROSEMINAR

To enroll initially in the honors program, you will take one of the history seminars or proseminars designated as available for honors credit. These are courses designed to develop research, analytical, and writing skills. The major part of these courses will be devoted to the writing and revising of research papers. It is expected that each full-time history faculty member will regularly offer at least one pre-honors seminar or proseminar. Typically these would include courses such as History 217, *American Family in Historical Perspective*; History 242, *Power in American Communities*; History 291, *Advanced Topics in International Relations*; and History 292, *Proseminar in the Writing of History*. For a more complete listing of pre-honors seminars and proseminars, consult Professor Romo, the department chair, or Professor Formisano, the director of the honors program.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select Third World historical themes as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society. The Antiquarian Society provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history prior to 1876. A dozen smaller libraries in Worcester, with combined holdings of more than one million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First- and second-year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their

program by taking colloquia, additional research seminars, and upper division undergraduate courses. The department chair assigns incoming graduate students to faculty advisers, who help design student programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or colleges in the Worcester Consortium.

MASTER OF ARTS

The department enrolls master's candidates and awards the degree to students who have completed eight courses and a one-year residence requirement; either submitted two substantial research papers prepared in two seminars, which are jointly equivalent of the master's thesis, or submitted a master's thesis; and passed the required oral examination. (The department now admits part-time M.A. students, whose residency requirement is defined in terms of courses taken.)

Ph.D. candidates who have passed their preliminary examination (whether or not they will continue with a dissertation) may also receive the degree of Master of Arts.

CERTIFICATE OF ADVANCED GRADUATE STUDY (C.A.G.S.) IN INTERDISCIPLINARY STUDIES

An interdisciplinary Certificate of Advanced Graduate Study is cosponsored by the Departments of History, English, and Foreign Languages and Literatures and is administered by Clark's College of Professional and Continuing Education (CO-PACE).

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of history through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must ordinarily spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination, and write a doctoral dissertation within seven years of matriculation. (In recent years the department has also admitted part-time Ph.D. students; their residency is defined in terms of courses taken.)

Language Requirement: Students concentrating in American and British history must pass an examination in one foreign language: French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The department chair designates an examiner in each language, who determines if the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered in the first semester of residence and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite for the Ph.D. degree. Students normally meet this requirement in their second and third years as teaching assistants.

Fields: Soon after arriving at Clark, each student, in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally offer the full scope of American history as two fields. Those

concentrating in non-American history normally offer one American field. (The dividing line between the two American fields generally falls at 1815.) Any student may offer a nonhistorical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be offered for oral examination at the end of the student's first year. Prior to taking the oral, the student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examination may, upon request, receive the master of arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, *Format Regulations for Theses, Dissertations, and Research Papers at Clark University*, which may be obtained from the thesis consultant at Goddard Library.

COURSES

NOTE: Undergraduate courses are of two types: (1) survey courses designed for freshmen and sophomores, numbered with two digits or 100-199, and (2) advanced courses numbered 200-299. The latter carry no prerequisite (unless specifically noted) and are open to freshmen and sophomores as well as upperclass students without permission of the instructor. In case of doubt, students should consult their instructors. The term *proseminar* indicates courses of limited enrollment that combine reading, discussion, and written reports. The term *seminar* indicates a research course.

HISTORY DEPARTMENT COURSE LISTING BY FIELDS OF CONCENTRATION

U.S. HISTORY

- 10 INTRODUCTION TO HISTORY AND AMERICAN STUDIES
- 11 SURVEY OF U.S. HISTORY TO 1877
- 12 SURVEY OF U.S. HISTORY SINCE 1877
- 16 RACE AND ETHNICITY IN AMERICAN HISTORY
- 20 AMERICA AND THE WORLD
- 27 FRESHMAN SEMINAR: AMERICAN FAMILY IN HISTORICAL PERSPECTIVE
- 28 FRESHMAN SEMINAR: URBAN COMMUNITIES IN AMERICA
- 135 U.S. SOCIAL HISTORY-1850 TO PRESENT
- 145 U.S. HISTORY THROUGH THE NOVEL
- 200 AMERICA'S FORMATIVE YEARS
- 201 ERA OF THE AMERICAN REVOLUTION
- 202 U.S. CONSTITUTION TO AMERICA'S SECOND WAR OF INDEPENDENCE
- 204 INTERPRETATIONS OF AMERICAN HISTORY
- 206 NINETEENTH CENTURY U.S. POLITICAL HISTORY
- 208 THE U.S., 1900-1945
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- 212 U.S. URBAN HISTORY
- 217 AMERICAN FAMILY IN HISTORICAL PERSPECTIVE
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- 219 HISTORY OF AMERICAN WOMEN
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- 224 HISTORY OF AFRO-AMERICAN WOMEN
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- 230 THE ROLE OF THE FEDERAL CONSTITUTION IN AMERICAN HISTORY
- 234 HEALTH AND DISEASE IN THE AMERICAN HABITAT
- 237 U.S. FOREIGN RELATIONS TO 1914
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- 240 AMERICAN CULTURE AND SOCIETY 1820-1860
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- 242 POWER IN AMERICAN COMMUNITIES
- 243 AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES
- 244 WAGING WORLD WAR II: WAR AND SOCIETY IN AMERICA
- 245 U.S. FOREIGN POLICY: MIDDLE EAST
- 246 CLARK IN HISTORICAL PERSPECTIVE
- 285 THE MULTINATIONAL CORPORATION
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EUROPEAN HISTORY

- 30 UTOPIANISM AND EUROPE'S FUTURE
- 70 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE "FALL" OF ROME THROUGH THE RENAISSANCE AND REFORMATION
- 71 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE SEVENTEENTH CENTURY TO THE PRESENT
- 121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY
- 157 THE AGE OF NERO
- 163 RUSSIA TO 1917
- 216 WOMEN IN BRITAIN AND AMERICA, 1800 ON
- 250 THE FORMATION OF THE MODERN STATE: GROUP CONSCIOUSNESS, INDIVIDUALISM, AND SOCIAL ORGANIZATION IN "OLD EUROPE," 1550-1789
- 251 THE COMPARATIVE STUDY OF REVOLUTIONS: THE FRENCH REVOLUTION OF 1789 AND THE BEGINNINGS OF MODERN REVOLUTIONS
- 252 NINETEENTH-CENTURY EUROPE
- 253 TWENTIETH-CENTURY EUROPE
- 255 NARRATIVE IN ANCIENT HISTORICAL WRITING
- 257 EUROPE SINCE 1945
- 258 TOWARDS MODERN ENGLAND
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- 264 REVOLUTIONARY RUSSIA, 1900-1924
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- 272 IN SEARCH OF HUMANITY: NINETEENTH-CENTURY EUROPEAN VALUES
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- 262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD
- 276 MODERN JEWISH HISTORY
- 277 HISTORY OF ZIONISM

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- 177 LATIN AMERICAN HISTORY SINCE 1825

AFRICAN HISTORY

- 60 AFRICA AND THE WORLD
- 178 POLITICS AND HISTORY OF SOUTH AFRICA

- 179 THE HISTORY OF TRADITIONAL AFRICA
- 180 HISTORY OF MODERN AFRICA
- 286 CITIES IN AFRICA
- 290 DEVELOPMENT PROJECT MANAGEMENT

ASIAN HISTORY

- 31 GREAT BOOKS OF CHINA
- 80 INTRODUCTION TO MODERN ASIA
- 181 TRADITIONAL CHINA
- 182 MODERN CHINA
- 184 MODERN JAPAN: THE RISE OF A GREAT INDUSTRIAL POWER
- 280 ASIAN HISTORY
- 281 THE PEOPLE'S REPUBLIC OF CHINA
- 282 CHINESE WOMEN IN LITERATURE AND SOCIETY

INTERNATIONAL DEVELOPMENT

- 125 DEVELOPMENT PROBLEMS
- 283 CLIMATE AND HISTORY: AN ANALYSIS OF THE INFLUENCE OF CLIMATE ON HISTORICAL CHANGE

GENERAL GLOBAL HISTORY

- 90 SURVEY OF TWENTIETH-CENTURY GLOBAL HISTORY
- 126 COMPARATIVE HISTORY OF BLACK NATIONALISM
- 162 THE HISTORY OF THE MODERN MIDDLE EAST
- 256 THE EXPANSION OF EUROPE, 1415 TO THE PRESENT

10 INTRODUCTION TO HISTORY AND AMERICAN STUDIES/Lecture, Discussion

Introduces basic problems of historical method and interdisciplinary study as revealed in American history. The nature of history, and the individual student's connection with American social history, are examined through autobiography, family history, historic fiction, and traditional historical texts. Emphasis is placed on reading, discussion, and writing one's own family history.

Mr. Formisano, Mr. Ford

Offered periodically

11 SURVEY OF U.S. HISTORY TO 1877/Lecture, Discussion

A general survey of American life from precolonial times to 1877. Special attention is given to general political trends, social, economic and intellectual developments.

Staff

Offered every year

12 SURVEY OF U.S. HISTORY SINCE 1877/Lecture, Discussion

A general survey of American life from 1877 to the present. Special attention is given to general political trends, social, economic, and intellectual developments.

Staff

Offered every year

16 RACE AND ETHNICITY IN AMERICAN HISTORY/Lecture, Discussion

Explores the influence that racial and ethnic patterns have had upon the whole course of American history. In terms of race, it analyzes the impact that red, white, and black peoples have had upon American history from colonial times to the 1980s. From an ethnic perspective, the course deals with the beliefs and ideas of different immigrant groups. It seeks to show how different immigrant groups affected the changing American environment over time, and conversely how the immigrants themselves were influenced by that dynamic American environment. A midterm, a final, and assigned term papers.

Mr. Billias

Offered every year

20 AMERICA AND THE WORLD/Lecture, Discussion

This course assumes: 1) that the United States will be a world power in the year 2000 and 2) that we should, therefore, understand America's development within the context of world history. Therefore, in chronological terms, the course stresses the period since the turn of the twentieth century, when America first emerged as a world power. Among the course's themes: the expansion of Europe into an Atlantic civilization, the Atlantic revolution, America's industrial development and the rise of an American continental empire, America and the two world wars, America and the rise of the Third World, the rise of multinational corporations, the Cold War, and imperial America as a global power in the 1960s and 1970s.

Mr. Billias, Mr. Little

Offered every year

27 AMERICAN FAMILY IN HISTORICAL PERSPECTIVE/Freshman Seminar

Explores historical changes in the family kinship and relations between generations in American society in comparison with other societies. It examines the relationship between industrialization and family behavior, the interaction between the family and other institutions (education, work, and welfare). The course also examines historical changes in the life cycle (childhood, adolescence, youth, adulthood and old age). Students will read a variety of writings in history, anthropology, sociology, psychology, and autobiography. Students will have the opportunity to write research papers.

Staff

Offered every other year

28 URBAN COMMUNITIES IN AMERICA/Freshman Seminar

This course examines the changing urban communities in American society from the early nineteenth century to the present. It compares different types of communities and looks closely at how individuals and families developed neighborhoods, how they related to their work places, and how they formed community ties. Students will carry out an original research project using primary sources in New England communities.

Staff

Offered every other year

30 UTOPIANISM AND EUROPE'S FUTURE/Lecture, Discussion

Readings, discussions, and short papers, using utopian novels (Orwell's *1984* and Huxley's *Brave New World*), social commentaries and lectures to focus on the course and prospects of modern European society. Not an introductory course for the major. Fulfills the *verbal expression* requirement.

Mr. Borg

Offered every other year

31 GREAT BOOKS OF CHINA/Lecture, Discussion

Readings, lectures, discussions, and short papers based on some of the most important philosophical, historical, and literary texts in the Chinese intellectual tradition. Fulfills the *verbal expression* requirement.

Mr. Ropp

Offered every other year

60 AFRICA AND THE WORLD/Lecture, Discussion

The course examines the historical and contemporary relationships between Africa and the rest of the world, emphasizing the two-way nature of the relationship: Africa's influence on world history and events and the influence of the world on Africa. Specifically, the course looks at: relationships between Africa and Europe, the U.S., the socialized world, the Muslim world, and the Middle East, and ends with a special focus on South Africa and the world.

Ms. Grier

Offered every year

70 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE “FALL” OF ROME THROUGH THE RENAISSANCE AND REFORMATION/Lecture

Principal goal is to familiarize students from all disciplines with the basic outlines of the developments of Western society and, therefore, the character of our collective identity. For the would-be history major, a secondary goal is the presentation of varieties of historical “angles”—cultural, political and military, economic and social—and the integration of these analytical approaches into a coherent, popular narrative. The medieval period is emphasized because our modern history is rooted in it. Students are advised to take both History 70 and 71 because they are parts of a whole, but either course may be taken without the other. Two exams, one short paper, final exam.

Mr. Lucas

Offered every year

71 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE SEVENTEENTH CENTURY TO THE PRESENT/Lecture

Goal is the same as History 70. Course begins with the military revolution of the sixteenth century, the bureaucratic revolution of the seventeenth century, and the Enlightenment of the eighteenth century, and it concludes with an examination of our contemporary spiritual, material, and institutional existence in the light of our past development. Students are advised to take both History 70 and 71 because they are parts of a whole, but either course may be taken without the other. Two exams, one short paper, final exam.

Mr. Lucas

Offered every year

80 INTRODUCTION TO MODERN ASIA/Lecture

A survey of modern historical trends in India, China, Japan, Southeast Asia, and Korea. Through political biographies, literary selections, and general histories, the course compares native traditions, colonial experiences, and postcolonial developments in Asia since roughly 1800.

Mr. Ropp

Offered every other year

90 SURVEY OF TWENTIETH-CENTURY GLOBAL HISTORY/Lecture, Discussion

Starting with a brief assessment of the world in 1900, the course offers historical background to the contemporary global order. It is designed to help students view their lives within a worldwide perspective in terms of politics, economics, and culture as well as the human costs and individual resilience shown during the great crises of this century. Students write several essays to integrate class reading, lectures, and discussions.

Mr. Ford

Offered every year

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics 121.

Mr. Burke

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Refer to course description under ID 125.

Ms. Thomas

126 COMPARATIVE HISTORY OF BLACK NATIONALISM

An introductory survey course, no prerequisites. A comparative intellectual history of the genesis, internal coherence, and mutual interaction of the politics of nationhood or group solidarity among selected black populations in North America, the Caribbean and Africa. Source materials will include primary texts, biographies,

novels and films. Taught by Professor Richard D. Ralston, E. Franklin Frazier Visiting Professor, 1988-89; Dr. Ralston is Professor of African and Afro-American History at the University of Wisconsin at Madison.

Mr. Ralston

Offered 1988-89

127 INTRODUCTION TO LATIN AMERICA

Refer to course description under ID 130.

135 U.S. SOCIAL HISTORY-1850 TO PRESENT/Lecture, Discussion

Explores the transformation of American society following industrialization and urbanization from the middle of the nineteenth century to the present. It examines the social structure, migration and immigration, the adaptation of various groups to a complex urban-industrial society. It pays special attention to the experience of different ethnic and racial groups and to family, work, education, social mobility, and labor relations in the context of changing social institutions.

Staff

Offered every year

145 U.S. HISTORY THROUGH THE NOVEL/Lecture, Discussion

An examination of some of the major events and topics of U.S. history through historical novels, including works by Gore Vidal, Robert Penn Warren, Norman Mailer, and others, from the American Revolution to World War II.

Mr. Formisano

Offered every year

157 THE AGE OF NERO/Lecture, Discussion

Refer to course description under Classics 157.

Mr. Burke

162 THE HISTORY OF THE MODERN MIDDLE EAST/Lecture, Discussion

This course will focus on Middle Eastern history and society from World War I to the present. Major themes will include the collapse of the Ottoman Empire and the emergence of nation states, colonial rule in the Arab world and the struggle for independence, the rise of Islamic fundamentalism, the role of women, the impact of oil, and the divisiveness of sectarianism.

Staff

Offered periodically

163 RUSSIA TO 1917

An introductory survey of Russian history from the ninth century A.D. to 1917. Coverage includes social, political, economic, and cultural themes in Russian history.

Staff

Offered periodically

174 THE JEWISH EXPERIENCE/Lecture, Discussion

A survey of the history of the Jewish community and the development of Judaism from the era of Alexander the Great (c.325B.C.E.) to the present. This course examines the major political, religious, social and economic trends of each period as they affected the evolving Jewish community and the development of Judaism, and emphasizes elements of change and continuity as well as the interaction of the Jewish community with the larger culture/community. Fulfills historical perspective requirement.

Staff

Offered every year

177 LATIN AMERICAN HISTORY SINCE 1825/Lecture, Discussion

A survey of Latin American nations from independence to the present with emphasis on the twentieth century. Major themes include the persistence of

neocolonial social and economic structures, the emergence of nationalist and revolutionary movements after 1900, and U.S.-Latin American relations.

Mr. Little

Offered every year

178 POLITICS AND HISTORY OF SOUTH AFRICA

Refer to course description under Government 178.

Ms. Grier

179 THE HISTORY OF TRADITIONAL AFRICA/Lecture, Discussion

An introduction to the history of Africa south of the Sahara. The course begins with the early civilizations of Kush, Axum, Ghana, Mali, Songhai, Benin, the Zanj, Congo, and Zimbabwe and continues through to the arrival of Europeans. Attention is given to eastern, western, and southern Africa. The approach is largely historical and anthropological.

Mr. Ford

Offered every other year

180 HISTORY OF MODERN AFRICA/Lecture, Discussion

Introduces students to the major themes of modern African history. Begins with an orientation to precolonial Africa and then considers four main periods: (1) the imperial years, (2) the struggle for independence, (3) the 1960s as a decade of independence, (4) the 1970s as a search for identity and development. Focus is primarily on the years since 1945.

Mr. Ford

Offered every other year

181 TRADITIONAL CHINA/Lecture, Discussion

Focuses on Chinese life, institutions, and culture from the earliest times through the mid-nineteenth century. Creative literature, philosophical writings, and selected primary documents

are used to supplement information presented in interpretive texts and lectures.

Mr. Ropp

Offered every other year

182 MODERN CHINA/Lecture, Discussion

Introduces students to events, personalities, and concepts of particular importance for understanding China's history from China's confrontation with the West in the mid-nineteenth century through the present. Readings that present the Chinese view of events will be used to supplement interpretative studies by Western scholars.

Mr. Ropp

Offered every other year

184 MODERN JAPAN: THE RISE OF A GREAT INDUSTRIAL POWER/Lecture

A survey of Japanese political, social, economic, diplomatic, and cultural history from approximately 1800 to the present. The main theme of the course is the century-long transformation of Japan from an isolated feudal society into one of the great industrial powers of the modern world.

Mr. Ropp

Offered every other year

200 AMERICA'S FORMATIVE YEARS/Lecture, Discussion

The basic institutions of American civilization and the prevailing attitudes of the present were shaped in large measure during the colonial era. This course deals with the foundations of such institutions as the family, church, and local community in America as well as the development of representative political institutions. The aim of the course is to analyze the reasons for two major tendencies that seemed to develop in the American colonies: the erosion of traditional European attitudes toward authority and the emergence of a psychology of accommodation resulting

from the pressures arising from the increasingly pluralistic character of the population.

Mr. Billias

Offered every other year

201 ERA OF THE AMERICAN REVOLUTION/Lecture, Discussion

This course analyzes American society in the prerevolutionary period. Particular emphasis is upon the ideological and political developments that led to the War of Independence.

Mr. Billias

Offered every other year

202 U.S. CONSTITUTION TO AMERICA'S SECOND WAR OF INDEPENDENCE/

Lecture, Discussion

An analysis of the American revolutionary experience, political theories in the making of the Federal Constitution, and problems of the new Federal government, and developments in the American political tradition through the Jeffersonian and Madisonian eras.

Mr. Billias

Offered every other year

204 INTERPRETATIONS OF AMERICAN HISTORY/Colloquium

An undergraduate-graduate course; undergraduates may enter with the permission of instructor (See course description under History 304.)

Staff

Offered every other year

206 NINETEENTH CENTURY U.S. POLITICAL HISTORY/Lecture, Discussion

An introduction dealing with the emergence of political parties, the Civil War and Reconstruction, the Gilded Age, third parties, Populism, and social movements, within a perspective emphasizing the shaping of modern American politics.

Mr. Formisano

Offered periodically

208 THE U.S., 1900-1945/Lecture, Discussion

A survey of the U.S. from the progressive era through World War II. The course emphasizes the emergence of modern American culture, the rise of an imperial presidency, and the growth of government intervention in the economy from Teddy Roosevelt to Franklin Roosevelt. Topics include the decline of socialism, the impact of war on American society, and the persistence of racial and ethnic conflict.

Mr. Little

Offered every other year

209 THE U.S. SINCE 1945/Lecture

A survey of U.S. political, social, and cultural history from Hiroshima to Watergate. The course focuses on the growth of an affluent society, the emergence of an imperial foreign policy, and the rise of the military-industrial complex. Major topics include anticommunism at home and abroad, the impact of the mass media on postwar American culture, the civil rights revolution, the Vietnamese War, and the continuing impact of "the sixties."

Mr. Formisano

Offered every other year

212 U.S. URBAN HISTORY/Lecture, Discussion

Examines major themes in the social, economic and cultural development of American urban society from colonial origins to the present. The course focuses on the process of urbanization and on the adaptation of various social groups and classes to urban life and to the complexity of urban society. It also examines the transformation of urban neighborhoods and ghettos, social reform movements in the city, and urban planning.

Staff

Offered every year

216 WOMEN IN BRITAIN AND AMERICA, 1800 ON/Lecture, Discussion

This course will explore female labor, women's marital and sexual roles, and women's participation in social and political reform movements in both Great Britain and America in the nineteenth and twentieth century.

Staff Offered every year

217 AMERICAN FAMILY IN HISTORICAL PERSPECTIVE/Lecture, Discussion

Explores historical changes in the family kinship and generational relations in American society with cross-cultural comparisons. It examines the relationship between industrialization and family behavior, the interaction between the family and other institutions (education, work, welfare), and historical changes in the life cycle. Opportunity for research papers.

Staff Offered every other year

218 AGING AND THE LIFE COURSE IN AMERICAN SOCIETY/Lecture, Discussion

Examines the historical changes in American society as they have affected the relations among different age groups and especially the status of older people. It explores the emergence and recognition of different stages of life (childhood, adolescence, youth, middle age, old age) in a changing cultural and social context. Limited to seniors and graduate students. Opportunity for research papers.

Staff Offered every other year

219 HISTORY OF AMERICAN WOMEN/Lecture, Discussion

Explores the changing roles of women in American society from colonial times to the present, with special attention to the status and contributions of women in the home, the workforce, and in politics.

Staff Offered periodically

220 INDUSTRIALIZATION IN COMPARATIVE PERSPECTIVE/Lecture, Discussion

Examines the process of industrialization and its social consequences. Focuses on the countries that industrialized first (England, the U.S. and parts of Western Europe) and compares them to countries that have industrialized in the twentieth century (Japan) and to those going through the process today. Examines aspects such as changes in organization of work, the division of labor, emergence of an "industrial culture," changes in status of workers and labor relations, demographic changes, and the transformation of the family and its economy. Limited to juniors, seniors, and graduate students. Opportunity for research papers.

Staff Offered every other year

221 AFRICAN/AMERICAN HISTORY/Lecture, Discussion

Examines the historical experience of blacks in America, especially from the Civil War to the present. The course focuses on the impact of racism on blacks, and on their many achievements

despite the numerous obstacles in their path.

Staff Offered periodically

224 HISTORY OF AFRO-AMERICAN WOMEN/Seminar

The course examines the historical experience of Afro-American women from the period of slavery to the present time. Particular attention is paid to the black women's role in the economy and in politics to resistance to racial and sexual oppression, and to the historical relationship to white women's movements.

Comparisons and contrasts are made between black women in the U.S. and black women in the Caribbean and South Africa.

Ms. Grier

Offered every other year

227 U.S. LABOR HISTORY/Pro-Seminar, Discussion

A reading and discussion course dealing with major interpretations and narratives of American labor history from the early 19th century to the mid-20th century.

Mr. Formisano

Offered every other year

228 RIGHT-WING MOVEMENTS, 1790-1970/Lecture, Discussion

Examines Wallace, McCarthyism, American fascism, social justice, the red scare, A.P.A., the know-nothings, anti-Masons, anti-illuminati, and other movements. Prerequisite: permission of instructor.

Mr. Formisano

Offered periodically

229 U.S. ELECTIONS AND PARTIES 1789-1984/Lecture, Discussion

A broad survey of American politics from the early national period to the elections of 1980 and 1984. Shifting voter coalitions, social movements, and social group behavior are emphasized, as well as different political systems and cultures from the past to the present.

Mr. Formisano

Offered periodically

230 THE ROLE OF THE FEDERAL CONSTITUTION IN AMERICAN HISTORY/Seminar

An undergraduate-graduate course; undergraduates may enter with the permission of instructor. (See course description under History 330.)

Mr. Billias

Offered every other year

233 SEMINAR ON ARMS CONTROL

Refer to course description under Government 234.

Mr. Lane

234 HEALTH AND DISEASE IN THE AMERICAN HABITAT

Refer to course description under Geography 234.

Mr. Koelsch

237 U.S. FOREIGN RELATIONS TO 1914/Lecture, Discussion

Studies the creation of an American continental empire from the Revolution to the Spanish-American War. The course emphasizes the role of the main policy makers (Franklin through McKinley) in shaping American territorial and commercial expansion. Major themes include diplomacy and the making of the U.S. Constitution, the influence of sectional conflict on antebellum foreign policy, and the economic aspects of American expansion after the Civil War.

Mr. Little

Offered every other year

238 U.S. FOREIGN RELATIONS SINCE 1914/Lecture, Discussion

Students examine the emergence of the U.S. as a major world power in the twentieth century. The course focuses on the domestic sources of foreign policy and the assumptions of the major policy makers (Wilson through Reagan). Important themes include the American response to a revolutionary world since 1910, the increasingly dominant role of the president in the making of U.S. foreign policy, and the changing position of the U.S. in the international economy.

Mr. Little

Offered every year

239 AMERICAN CONSTITUTIONAL LAW

Refer to course description under Government 254.

Mr. Campbell

240 AMERICAN CULTURE AND SOCIETY 1820-1860

Refer to course description under English 280.

241 AMERICAN THOUGHT AND CULTURE SINCE 1860

Refer to course description under English 281.

242 POWER IN AMERICAN COMMUNITIES/Discussion, Research

This undergraduate research seminar introduces students to the basic political science and historical literature concerning power in American cities. Students then do research papers on contemporary or historical power and influence in Worcester.

Mr. Formisano

Offered periodically

**243 AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES/
Seminar**

Given at the American Antiquarian Society (about two miles from Clark), the course affords students an opportunity to do original research in the society's unique holdings. Students should apply in the spring through Mr. Astolfi, Dean of the College.

American Antiquarian Society Staff

Offered every year

**244 WAGING WORLD WAR II: WAR AND SOCIETY IN AMERICA/Lecture,
Discussion**

War is viewed as an extension of the social organization of a given society; the underlying premise of the course is that one can learn a great deal about a society by analyzing the way in which it wages war. A comparative history approach is taken, with stress on the commonalities experienced by the major warring societies—the United States, Britain, France, Russia, China, Germany, Italy, and Japan. The focus is on the centralized bureaucracy of warring states and their standing military forces; the relationship between social, political, and military forces; and the relationship between social, political, and military structures.

Mr. Billias

Offered every year

245 U.S. FOREIGN POLICY: MIDDLE EAST

Refer to course description under Government 245.

Mr. Lane

246 CLARK IN HISTORICAL PERSPECTIVE/Seminar

After several weeks of common reading on the role of higher education in American culture—emphasizing the rise, character, and impact of the American university—members of the seminar work intensively with archival material on Clark-related topics of interest to them.

Mr. Koelsch

Offered every other year

**250 THE FORMATION OF THE MODERN STATE: GROUP CONSCIOUSNESS,
INDIVIDUALISM, AND SOCIAL ORGANIZATION IN "OLD EUROPE," 1550-
1789/Lecture, Discussion**

An examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by militarism, absolutism, mercantilism, early capitalism, modern science, and the requirements

of the international system of European states; an appreciation of the social and ideological legacies of the old regime in our own time. Six two-page papers, take-home final exam, class participation.

Mr. Lucas

Offered every other year

251 THE COMPARATIVE STUDY OF REVOLUTIONS: THE FRENCH REVOLUTION OF 1789 AND THE BEGINNINGS OF MODERN REVOLUTIONS/Lecture, Discussion

Analysis of old and new ideas of revolution including ritual, resistance, reactionary restoration vs. innovation; the "democratic" revolution; the psychology, sociology, and social psychology of revolutionary behavior; religion and revolution; violence; and the relevance of the French Revolution to twentieth-century issues. One long paper, two exams, class participation.

Mr. Lucas

Offered every other year

252 NINETEENTH-CENTURY EUROPE/Lecture, Discussion

Centers around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world.

Mr. Borg

Offered every other year

253 TWENTIETH-CENTURY EUROPE/Lecture, Discussion

Concentrates on the characteristic problems of Europe in a century of war, economic convulsion, and political instability.

Mr. Borg

Offered every other year

255 NARRATIVE IN ANCIENT HISTORICAL WRITING

Refer to course description under Classics 250.

Mr. Burke

Offered every other year

256 THE EXPANSION OF EUROPE, 1415 TO THE PRESENT

Staff

Offered periodically

257 EUROPE SINCE 1945/Proseminar

Readings and discussions in modern Europe since the second World War.

Mr. Borg

Offered every other year

258 TOWARDS MODERN ENGLAND/Lecture, Discussion

Examines the formation of the peculiarities of the English "character," state, society, religions, and the world's first modern industrial economy, 1500-1850. To help students grasp these peculiarities, a special emphasis is placed on comparisons of England's experience with continental Europe's and on the use of historical psychology.

Mr. Lucas

Offered every other year

259 MODERN GERMANY/Lecture, Discussion

Offers an examination of the convulsive course of German history over the past century.

Mr. Borg

Offered every other year

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics 260.

Mr. Burke

Offered every other year

264 REVOLUTIONARY RUSSIA, 1900-1924/Lecture, Discussion

Central themes are: (1) the collapse of the tsarist regime and the rise of Soviet power and (2) the transformation of a social revolution into an unprecedented experiment of mobilizing a backward empire for global power. For the human dimension of this historic drama, students read Pasternak and Sholokhov and write a short paper on each.

Staff Offered every other year

271 IN SEARCH OF HUMANITY: EIGHTEENTH-CENTURY EUROPEAN VALUES/Lecture, Discussion

The Enlightenment and its heirs and critics: the scientific revolution, philosophical reformism, and early conservative romanticism. Emphasis on rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduce the student to various approaches to intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny. Four two-page papers, final examination, class participation.

Mr. Lucas Offered every other year

272 IN SEARCH OF HUMANITY: NINETEENTH-CENTURY EUROPEAN VALUES/Lecture, Discussion

The elaboration of the enlightenment by its heirs and critics. Emphasis is same as in 271, but focus shifts to an analysis of political and economic liberalism, social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatism, and the reassessment of the values and progress of European civilization among principally Italian and German thinkers. Approximately four two-page papers; final examination, class participation.

Mr. Lucas Offered every other year

276 MODERN JEWISH HISTORY AND THOUGHT/Lecture, Discussion

Discusses the emergence of the Jew into modern society after the French Revolution. The political and ideological struggle over emancipation and adjustment are traced through the growth of Jewish denominationalism in Western Europe. The competing ideologies of Jewish nationalism (including those of both Zionist and non-Zionist) character are discussed in the context of Eastern European Jewry and its unique contribution to modern Jewish identity. The course concludes with an examination of the Weimar Republic in Germany (1918-1933) and the independent Polish State (1918-1939).

Staff Offered every other year

277 HISTORY OF ZIONISM/Lecture, Discussion

Examines the development of Zionist ideologies and the emergence of Zionism as a political movement in response to the events of nineteenth-and twentieth-century Europe and the Middle East. Attention is also paid to the political and social history of the state of Israel and to the Arab-Israeli conflict.

Staff Offered every other year

280 ASIAN HISTORY/Seminar

See History Department chair for description.

Mr. Ropp Offered periodically

281 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

A general survey of life in the People's Republic of China from 1949 to the present. Includes a general history of the People's Republic, and special attention to such

themes as politics, society, family life, agriculture, industry, science and technology, literature, the arts, foreign relations, law, medicine, and education.

Mr. Ropp

Offered every other year

282 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Examines the changing role of women in Chinese society from the seventeenth century to the present, primarily through the reading and discussion of Chinese literature in English translation.

Mr. Ropp

Offered periodically

283 CLIMATE AND HISTORY: AN ANALYSIS OF THE INFLUENCE OF CLIMATE ON HISTORICAL CHANGE/Lecture, Discussion

An inquiry into the influence climatic patterns have exerted on historical events. The course looks primarily at Africa and the U.S. In Africa, attention focuses on the Sahel over the last 8,000 to 10,000 years, but with special focus on the last 2,000 years. In southern Africa, climate and lifestyle of five different population groups are compared with a similar environmental setting in the great plains of North America. Special attention is given to the Turner hypothesis for institutional development on the frontier.

Mr. Ford

Offered periodically

285 THE MULTINATIONAL CORPORATION/Proseminar

Considers the growth and development of the multinational corporation from the late nineteenth century through the 1970s. The course examines why multinationals expand abroad, how they affect the host country, and in what manner they influence U.S. foreign policy. Emphasis on case studies from the oil, mineral, and utilities industries. Prerequisite: permission of instructor.

Mr. Little

Offered every other year

286 CITIES IN AFRICA

Considers historical dimensions of African urbanization with special attention to the spatial and functional role of cities. Agricultural, administrative, political, market, and industrial uses are examined. The impact of urbanization on African cultural values also is examined.

Mr. Ford

Offered every other year

290 DEVELOPMENT PROJECT MANAGEMENT/Seminar

Refer to course description under International Development 290.

Mr. Ford

Offered every year

291 ADVANCED TOPICS IN INTERNATIONAL RELATIONS/Seminar

Substantive content of this course varies with the interests of the instructor. Possible topics include issues in international development, multinational corporations, the new international economic order, or issues in U.S. foreign policy. The course is designed principally for advanced students concentrating in international relations. Other students may be admitted by permission of the instructor.

Mr. Little

Offered every year

292 PROSEMINAR ON THE WRITING OF HISTORY

This course attempts to teach students how to write analytical and synthetic research papers and how to write them well. It introduces students to problems of studying history by learning about the aspirations, advantages, and disadvantages

of "historicism." Open to all, but permission of instructor is required. Three papers, each rewritten once, and class participation.

Mr. Lucas

Offered periodically

295 CAPSTONE/Proseminar, Discussion

Readings and discussions in the history of the idea of history from Thucydides until the present.

Mr. Borg, Staff

Offered every year

296 PRACTICUM IN THE TEACHING OF HISTORY

Variable credit.

Mr. Ford

299.1 DIRECTED READINGS/Tutorial

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor. Prerequisite: permission of instructor.

Staff

Offered for variable credit.

299.2 RESEARCH PROJECTS/Tutorial

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. Prerequisite: permission of instructor. Offered for variable credit.

Staff

DEPARTMENTAL HONORS

299.8 HONORS THESIS RESEARCH

Honors students receive up to two credits for thesis research. Honors students preparing for the comprehensive exam receive credit for their reading under History 299.1. Offered for variable credit.

Staff

Offered every year

299.9 INTERNSHIP

The student who undertakes an interdisciplinary internship for more than two credits may receive up to two credits in history and the remainder in another department. Prerequisite: permission of instructor and of chair. Offered for variable credit.

Staff

GRADUATE COURSES

301 STUDIES IN EIGHTEENTH-CENTURY AMERICAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Billias

304 INTERPRETATIONS OF AMERICAN HISTORY/Colloquium

Takes a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's Second War of Independence.

Staff

Offered every other year

315 STUDIES IN ECONOMIC HISTORY/Tutorial

Independent studies. Offered for variable credit.
Staff

330 THE ROLE OF THE FEDERAL CONSTITUTION IN AMERICAN HISTORY/Researchers Seminar

Designed to trace the impact of American constitutional ideas from two different perspectives: the effect of the Federal Constitution of 1787 on the rest of the world, and the effect of the world on Americans in terms of their changing perceptions and attitudes toward the Constitution as they witnessed their constitutional ideas being used abroad.

Mr. Billias

Offered every other year

331 AMERICAN POLITICAL HISTORY/Researchers' Seminar

U.S. political history: methods and topics. Concentration is on topics selected by instructor and students, with special attention to interdisciplinary methods and most recent works in political history.

Mr. Formisano

Offered every year

335 STUDIES IN NINETEENTH-CENTURY U.S. HISTORY/Tutorial

Independent studies. Offered for variable credit.
Staff

336 STUDIES IN AMERICAN CONSTITUTIONAL HISTORY/Tutorial

Independent studies. Offered for variable credit.
Staff

337 STUDIES IN DIPLOMATIC HISTORY/Tutorial

Independent studies. Offered for variable credit.
Mr. Little

341 STUDIES IN AMERICAN THOUGHT AND CULTURE/Tutorial

Independent studies. Offered for variable credit.
Mr. Koelsch, Staff

342 STUDIES IN AMERICAN INTELLECTUAL HISTORY/Tutorial

Independent studies. Offered for variable credit.
Staff

344 STUDIES IN RECENT AMERICAN HISTORY/Tutorial

Independent studies. Offered for variable credit.
Mr. Little, Staff

350 STUDIES IN EARLY MODERN EUROPEAN HISTORY/Tutorial

Independent studies. Offered for variable credit.
Mr. Lucas

351 STUDIES IN EUROPEAN INTELLECTUAL HISTORY/Tutorial

Independent studies. Offered for variable credit. Papers and discussion.
Mr. Lucas

352 STUDIES IN MODERN EUROPEAN HISTORY/Tutorial

Independent studies. Offered for variable credit.
Mr. Borg

359 STUDIES IN RUSSIAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Staff

380 STUDIES IN AFRICAN HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Ford

383 STUDIES IN CHINESE HISTORY/Tutorial

Independent studies. Offered for variable credit.

Mr. Ropp

395 PRACTICUM IN THE TEACHING OF HISTORY

Offered for variable credit.

Mr. Ford, Staff

399 GRADUATE READINGS

Offered for variable credit.

Staff

International Development and Social Change

PROGRAM FACULTY

Richard B. Ford, Ph.D., *director, ID—Research*: African history, resource management and international development

Barbara P. Thomas, Ph.D., *director, ID—Teaching*: community organization, women and public policy, peasant behavior

Stanford Hagopian-Gerber, Ph.D.: Caribbean politics, migration, family, development of small islands

Jeffrey Jones, Ph.D.: Central America, small farmer behavior, forestry resource management, agricultural development

Harry Schwarz, B.C.E., P.E.: resource management, water resources, environmental impact of development

Ann Seidman, Ph.D.: regional economics, African development, project analysis

ADJUNCT FACULTY

Robert Bradbury, Ph.D.: health planning, health systems analysis, health administration

Ronald J. Eastman, Ph.D.: geographic information systems, remote sensing and digital image processing, cartographic design and production

Jacque L. Emel, Ph.D.: water resources, resource management

Cynthia Enloe, Ph.D.: bureaucratic politics, comparative race and ethnicity, politics of women

Glen Gersmehl, M.A.: peace studies

Beverly C. Grier, Ph.D.: African politics, international development

Susan Hanson, Ph.D.: urban-social geography, transportation

Robert C. Hsu, Ph.D.: economic development, comparative economic systems, international economics

Douglas L. Johnson, Ph.D.: arid land management, cultural ecology, human geography, environment and development

Gerald J. Karaska, Ph.D.: regional economic development
 Roger Kasperson, Ph.D.: political geography, hazards
 Dorothy Kaufmann, Ph.D.: language and culture in the French-speaking world
 Laurence A. Lewis, Ph.D.: agriculture and physical environment in the tropics, rural agricultural development, Africa, Caribbean
 Richard Peet, Ph.D.: political economy, Marxist geography
 Frank Puffer, Ph.D.: regional economics, African economic development, health economics
 Paul S. Ropp, Ph.D.: Asian history, comparative history
 Robert Rosh, Ph.D.: international relations, arms in the Third World
 Robert Snow, Ph.D.: rural sociology, export-oriented industrialization in Southeast Asia, project analysis and evaluation
 Zenovia A. Sochor, Ph.D.: Soviet politics, revolutions, superpowers and the Third World
 Harry J. Steward, Ph.D.: cartography, remote sensing, mapping systems
 B.L. Turner II, Ph.D.: cultural ecology, agriculture

PROGRAM

International Development and Social Change (ID) is an interdisciplinary program with teaching, training, and research components. It offers courses at the B.A. and M.A. levels. It was founded in the mid-1970s as a cross-disciplinary effort among the Graduate School of Geography; the Environmental Affairs Program; and the Departments of Government, Economics, and History. Subsequently this interdisciplinary approach has been enhanced by the incorporation of anthropology, programmatic collaboration with the Graduate School of Management, and the establishment of the Center for Technology, Environment, and Development (CENTED) of which ID is a founding partner.

The teaching program is designed to introduce students to the complex issues involved in international development, acquaint them with a range of research activities, and prepare them for careers and participation in international fields. It attempts to orient majors to the changing world in which we live and to the increasing role developing societies play in the interdependence of the world's social, economic, and political systems. The program encourages nonmajors to participate in its courses, seminars, or other international development activities. Undergraduates are encouraged to work out a double major with ID and one of the cooperating departments.

Majors are expected to acquire basic skills of economic and social analysis as well as a generalized orientation toward development and social change. These skills and attitudes will be useful for any number of careers in either the private or the public sector that deal with developing areas of the world, or for further graduate study and specialization. To attain these skills students in the program work in a combined graduate-undergraduate setting, which blends the breadth of liberal arts with the specialization of professional training. Thus, the curriculum combines existing departmental courses, new cross-disciplinary courses, and applied research activity.

The research program offers faculty and students opportunities to work individually and cooperatively on topics of concern relating to international development and social change. Recent research projects have included:

- developing a national environmental monitoring system in collaboration with Sudan's Institute of Environmental Study,
- assessing household and community responses to resource problems in several African countries,
- analyses of pattern of land use and deforestation in Honduras,

— working with the National Environment and Human Settlement Secretariat in Kenya to produce district environment assessment profiles, and establishing trends in renewable resources in five East African countries.

In all our research, we are concerned not only with the relationship among technological intervention, finite resources, and social change in the developing world, but also with relationships between poor and more affluent nations. Associated with these collaborative research efforts are seminars, symposia, internships, and summer research activities.

The Program for International Development and Social Change is flexible, permitting students to participate in designing their own interdisciplinary curriculum for the study of development problems. It aims to meet the needs of three different groups of students:

First, it provides one of the few programs in the United States that permits undergraduate students to take a liberal arts B.A. degree focused on development. Students may major in international development or they may take international development as a double major in conjunction with a related discipline such as geography, economics, government, or sociology.

Second, it provides an opportunity for undergraduates qualified to go on in the program to complete a five-year B.A./M.A. degree with a view to a career in the development field.

Third, it provides a self-contained program for students coming from other universities who want to obtain the necessary background and complete an M.A. in order to pursue a career in the development field.

UNDERGRADUATE PROGRAM

Undergraduates majoring in international development are expected to:

1. attain an understanding of the development process and its political, economic, historical, theoretical, and environmental aspects;
2. master basic skills including quantitative skills and techniques of economic and social analysis, and are strongly encouraged to develop competence in a foreign language;
3. develop an investigative/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience; and
4. pursue a career track—for example, resource management or women in development—chosen in consultation with a faculty adviser.

Course Requirements

1. *Basic orientation:* Majors take the introductory *Development Problems* course (International Development and Social Change 125); development economics; and three additional core courses in politics, resource management, and sociocultural issues. Students transferring from other majors or universities may substitute equivalent courses. Unless they otherwise satisfy the prerequisites for development economics (with permission of instructor), they also must take Economics 10 and 11, *Issues and Perspectives* and *Principles of Economics*.
2. *Area of specialization:* Majors will take at least four courses in an area of specialization they select in consultation with an ID faculty adviser. Students may follow the pattern set out in one of several established tracks—for example, resource management, rural development, anthropology, or health management—or a student may design a course sequence, subject to approval by an appropriate faculty member, that creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for

students to link their interest in development with a focus in a specialized field.

3. *Skill courses:* Majors must take one of several offerings in social sciences research methods and two of the following: computer science, statistics, or cartography. They should decide, in consultation with a faculty adviser, which language proficiency would be most helpful for their chosen development area.

Master's Program

The Master's Program in International Development affords the graduate student interested in pursuing an independent course of study the opportunity to work closely with faculty members from a broad range of disciplines. The program allows the student a large degree of flexibility in terms of thesis research while emphasizing a core of required classes designed to develop the student's quantitative, analytical, and research skills. These include development theory; project analysis and management; research methods and class work; or competence in statistics, computer science, and/or cartography. A minimum of eight course units is necessary. There are opportunities for internships with development agencies in the United States; the program also is developing internship opportunities overseas.

Students are encouraged to develop their own fields of specialization in preparation for thesis research, which should be undertaken in the second year of study. Specializations that have been selected by graduate students include women and development, resource management, development theory, rural development, international political economy, household economic behavior, local organization and participation, and comparative ethnic relations. The thesis is normally completed in the third or fourth semester and may include field research.

COURSES

015 INTRODUCTION TO ECONOMIC GEOGRAPHY/Lecture

Theories of the geography of the production of human existence out of nature are presented. The course emphasizes contemporary economic, social, and environmental problems. These include overpopulation, environmental crises, world food problems, uneven economic development, the spatial movement of industry and jobs, and regional decline and unemployment. The course concludes by discussing the disappearance of unique regional economies and cultures and the emergence of a world capitalist economy, culture, and consciousness.

Mr. Peet, Mr. Karaska

Offered every year

027 GEOGRAPHY OF THE THIRD WORLD/Lecture, Discussion

Introduces students to the geo-history of the Third World through a "mode of production" analysis of the relations between the Europeans and the people of Latin America, Africa, and Asia. Each year a particular Third World problem is identified and analyzed—environment, hunger, economic development, and cultural imperialism are examples. The course is suited to students with little background or knowledge of the Third World but with a thirst to understand the conditions of existence of the majority of the world's people, and a commitment to changing those conditions.

Mr. Peet

Offered every year

090 SURVEY OF TWENTIETH-CENTURY GLOBAL HISTORY/Lecture, Discussion

Starting with a brief assessment of the world in 1900, the course offers historical

background to the contemporary global order. Designed to help students view their lives within a worldwide perspective in terms of politics, economics, culture, and the human costs and individual resilience shown during the great crises of this century. Students write several essays to integrate class reading, lectures, and discussions.

Mr. Ford, Mr. Astolfi

Offered every year

108 WORLD POPULATION/Lecture

Is the population of our world growing too fast? Will overpopulation lead to doomsday? To address these questions requires an understanding of the nature of population growth and sociocultural responses to it. This course develops an understanding of this relationship through a mix of demography and population geography. World patterns of population distribution, history, and dynamics are explored, and the future of population problems is addressed.

Mr. Turner, Mr. Johnson

Offered periodically

117 REVOLUTION AND POLITICAL VIOLENCE/Lecture, Discussion

Analysis of the concept, the causes, and the process of revolution. Distinctions are made between revolution and other forms of political violence such as terrorism, rebellion, and coups. The course examines theories of revolution as well as specific case studies. The Russian and Chinese revolutions are studied as twentieth-century prototypes; comparisons are then drawn to recent revolutions in the Middle East and Latin America.

Ms. Sochor

Offered every year

118 FRESHMAN SEMINAR: THE THIRD WORLD THROUGH LITERATURE/Seminar

Focuses on an introduction to the philosophy, history, society, and contemporary issues of the Third World through novels, poetry, and short stories of Third World writers. Readings will emphasize contemporary literature from Asia and Africa.

Ms. Thomas

Offered every other year

120 INTRODUCTION TO SOCIAL ANTHROPOLOGY/Lecture, Discussion

Analysis of traditional and nontraditional societies with a focus on social structure and social process. One of the main purposes of the course is to help the student become less ethnocentric and culture-bound when analyzing national and international events. Class materials are drawn from various countries including those in Africa, the Caribbean, the Middle East, and Latin America.

Mr. Hagopian-Gerber, Mr. Jones

Offered every year

125 DEVELOPMENT PROBLEMS/Lecture, Discussion

Introduces students to the major issues and debates in the field of international development, by addressing a variety of concerns including colonialism, development and underdevelopment, the relationship between arms expenditures and development, growth and equity issues, trade, aid, North-South relations, emergence of class, and political ideologies. The class focuses on specific problems of food, population, and resources. Case materials are drawn from a number of countries including India, China, Kenya, Tanzania, Mexico, Brazil, and Bangladesh.

Ms. Thomas

Offered every year

127 POLITICAL ECONOMY OF UNDERDEVELOPMENT/Lecture

Do conventional explanations of underdevelopment strike you as false and unconvincing? A powerful and refreshing alternative perspective exists in Marxist

and neo-Marxist theories of social change. This course reviews the main currents within this rich stream including theories of dependency, imperialism, accumulation world systems, unequal exchange, and mode of production. Marxist concepts are used to examine the international role of capital, multinational corporations, and regional decline. Finally, the course presents alternative models of socialist development.

Mr. Peet, Staff

Offered every year

128 THE FAMILY AND SEX ROLES IN CROSS-CULTURAL PERSPECTIVE: AN ANTHROPOLOGICAL APPROACH/Lecture, Discussion

This course concerns itself with family organization and gender roles in traditional and modern societies. Topics explored include the various ways the family is structured; the socialization process for males and females; the changing role of males and females in comparative perspective; the nature and function of kinship systems; the extended family; anthropological and biological views concerning the nature of male and female roles; the functions of the women's liberation movement with respect to child rearing; and the effects of the women's liberation movement on males, females, and the economic process. Some time is spent discussing the changing role of elders within modern industrial states and the role of elders in traditional and primitive societies. These and other topics are viewed in comparative perspective. Countries and regions examined include the Middle East, Africa, the Soviet Union, the Pacific, and the United States. Course requirements include two examinations and one moderately long research paper to be decided on after discussion with the instructor. Some films are screened, and guest speakers present varying views to the class.

Mr. Hagopian-Gerber

Offered every year

130 INTRODUCTION TO LATIN AMERICA/Lecture

This course considers the underlying bases of Latin American society, especially from an economic and cultural perspective. Theories to explain the Latin American "condition" are reviewed to set the context for the course. The contribution of the Pre-Columbian civilizations (especially Inca and Maya) is evaluated in both a real and symbolic sense, followed by a comparison with the Iberian cultural, economic, and political traditions introduced at the time of the conquest. The second half of the course will focus on contemporary situations of concern in Latin America, including political movements, trends in economic development, and international relations.

Mr. Jones

Offered every year

136 SUB-SAHARAN AFRICA: ISSUES AND PROBLEMS/Lecture, Discussion

Explores issues and problems confronting sub-Saharan Africa, including the legacy of colonialism, establishment of nation-states, changing production systems, the roles of women in existing economic structures, the emergence of class, strategies for socioeconomic change, and regional conflict particularly in the Horn and Southern Africa. Readings include contemporary literature, public documents, journals and newspapers, and secondary sources. Illustrative material is drawn selectively from East, West, and Southern Africa.

Ms. Thomas, Ms. Grier

Offered every other year

139 COUNTRY AND CULTURE/Lecture

The landscape can be read! Be it a vast tropical rainforest with an occasional clearing or an intensively cultivated river valley in New England, the rural landscape is the product of interaction between place (environment) and people (culture). This

course traces the evolution of rural landscapes through time from early hunter-gatherers to modern suburban encroachment on rural areas. Emphasis is placed on ecological principles that help explain the technocultural modification of rural places.

Mr. Johnson, Mr. Turner

Offered every year

144 COMPARATIVE RACE AND ETHNIC RELATIONS/Lecture

Both race and ethnicity have played and still play a vital role in local, national, and international affairs. For example, to understand the problems of the Middle East, it is vital to understand the role that ethnicity plays in local life, attitudes toward other people, and politics. This course enables students to understand and appreciate the nature of immigration, the experiences that migrants encounter in a new location, and the problems that migrants face. It is also hoped that students will get a better appreciation of their own historical and cultural backgrounds. Guest lecturers present material dealing with the Middle East, Africa, Latin America and the Caribbean.

Mr. Hagopian-Gerber

Offered every year

158 THE FRENCH-SPEAKING WORLD/Seminar

An interdisciplinary analysis of the problematic role of the French language and the culture it represents in various parts of the world, with emphasis on Quebec, the Antilles, Algeria, and French-speaking Africa. Through literature, social texts, and film, we explore such issues as bilingual colonialism, the question of *negritude*, the origins and legacy of the Algerian war, and conflicts between traditional and modern social codes. Prerequisite: one third-year level course, or permission of instructor.

Ms. Kaufmann

Offered every other year

169 INTRODUCTION TO INTERNATIONAL RELATIONS/Lecture, Discussion

Refer to course description under Government 169.

175 CULTURAL ECOLOGY IN ARID LANDS/Lecture, Discussion

Drylands are risky and often inhospitable places in which to live. Yet people choose to occupy such places and to wrest a living from sparse and scattered resources. Those farmers, herders, hunters, and urban dwellers who are successful have coping strategies for dealing with drought, desertification, and environmental change. Comparison of these strategies in both developing and industrialized societies identifies obstacles to and opportunities for successful management of drylands in support of a growing population.

Mr. Johnson

Offered every other year

176 COMPARATIVE ECONOMIC SYSTEMS/Lecture

Surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Selective aspects of mixed economies, market socialist economies, and centrally planned economies are examined. Topics include the permanent employment system in Japan, indicative planning in France, industrial democracy in Sweden, workers' self-management in Yugoslavia, economic reforms in Hungary, and resource allocation in the U.S.S.R.

Mr. Hsu

Offered every year

177 CHINESE AND JAPANESE ECONOMIES/Lecture

A comprehensive survey of the Chinese and Japanese economies—their development, institutions, and policies. Topics include historical background, agricultural

development, industrial organization, fiscal and monetary policies, employment and labor, Sino-Japanese relations, and relations with the U.S.

Mr. Hsu

Offered every other year

178 POLITICS AND HISTORY OF SOUTH AFRICA/Lecture, Discussion

The aim of the course is to acquaint students with the forces that have shaped the political system in South Africa today. The structure of the economy (mining, agriculture, and industry) is examined with particular attention paid to the role of black labor. The rise and consolidation of Afrikaner nationalism, the introduction and implementation of apartheid, the response of blacks to apartheid and to growing rural and urban poverty, and South Africa's foreign policy toward neighboring African countries are among the topics discussed. The economic and political role played by American investment in South Africa is explored, as is official U.S. policy toward the country.

Ms. Grier

Offered every other year

179 THE HISTORY OF TRADITIONAL AFRICA/Lecture, Discussion

An introduction to the history of Africa south of the Sahara. The course begins with the early civilizations of Kush, Axum, Ghana, Mali, Songhai, Benin, the Zanj, Congo, and Zimbabwe, and continues through to the arrival of Europeans. Attention is given to eastern, western, and southern Africa. The approach is largely historical and anthropological.

Mr. Ford

Offered every other year

180 HISTORY OF MODERN AFRICA/Lecture, Discussion

Introduces students to the major themes of modern African history. Begins with an orientation to precolonial Africa and then considers four main periods: (1) the imperial years, (2) the struggle for independence, (3) the 1960s as a decade of independence, and (4) the 1970s as a search for identity and development. Focus is primarily on the years since 1945.

Mr. Ford

Offered every other year

182 POLITICS, PEOPLE, AND POLLUTION/Lecture, Discussion

Environmental problems and issues arise from economic development processes in both industrialized and developing countries. What are the facts and what are the myths in a consideration of environment and development? How do we establish policies for dealing with these problems? What are the processes by which governments make decisions addressing complex environmental/development issues here and in distant parts of the world? This course offers students an opportunity to examine the relations between environment and development in the context of developing and industrialized societies.

Ms. Thomas, Mr. Schwarz

Offered every other year

183 MODERN CHINA/Lecture, Discussion

Introduces students to events, personalities, and concepts of particular importance for understanding China's history from China's confrontation with the West in the mid-nineteenth century through the present. Readings that present the Chinese view of events are used to supplement interpretative studies by Western scholars.

Mr. Ropp

Offered every other year

189 REMOTE SENSING OF THE ENVIRONMENT/Lecture, Laboratory

Offers a broad introduction to one of the most powerful tools now being developed

for surveying geographical phenomena. It covers the use of remotely sensed data such as air photos and a variety of satellite imagery to provide answers to many of the problems about our physical and human environment.

Mr. Steward

Offered every year

207 POLITICS AND DEVELOPMENT: CENTRAL AMERICA AND SOUTHERN AFRICA/Lecture, Discussion

Examines the theoretical debates surrounding concepts such as development, modernization, underdevelopment, and dependency, and looks in some detail at the politics of development in two countries: one in Central America and one in Africa. The roles of political parties, the bureaucracy, the military, the extremes of wealth and poverty, and the impact of global economic and political forces on these countries are examined.

Ms. Grier

Offered every other year

210 ENVIRONMENTAL PROTECTION LAW/Lecture, Discussion

A free-wheeling discussion of pollution control in the real world and its legal, institutional, and political framework; federal, state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizens' suits;" selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups; corporate and media responsibility; economy versus ecology; and old tools, new tools and potential for change. The course includes reading copies of statutes and journal articles. Informal student advocacy panels are used.

Staff

Offered every other year

211 GEOMORPHOLOGY OF HUMID TROPICS/Lecture, Discussion

The humid tropics, home of rainforests and savannas, are areas of special interest to physical geographers. Deep weathering of rocks, rapid soil erosion when the forest or grasses are removed, great rivers in the tropics, and the devastating impact of human intervention are among the topics explored.

Mr. Lewis

Offered every other year

212 WOMEN AND SOCIAL CHANGE/Seminar

Examines the central assumptions and theories about the status and roles of women from multidisciplinary, cross-national, cross-cultural perspectives, emphasizing the Third World. Explores issues pertaining to the division of labor between the sexes; relationships among class, gender, and ethnicity; the household economy; women's roles in economic development; population; education; the internationalization of capital and women's work; and women in politics and political organizations. Materials focus on women's experience in Africa, Asia, and Latin America.

Ms. Thomas

Offered every other year

218 SEMINAR IN PHYSICAL ENVIRONMENT AND DEVELOPMENT/Seminar, Discussion

The world is changing more rapidly than at any time in history. This course reviews the patterns of change in the Third World, examines the role of environment and resource management in development, and allows students to develop their own in-depth case studies. Permission of instructor is required.

Mr. Lewis

Offered every other year

222 STRATEGIES OF DEVELOPMENT AND CHANGE IN COMMUNIST POLITICAL SYSTEMS/Lecture, Discussion

Examines the relationship among ideology, political power, and levels of economic development in the formulation of communist political systems. Poses the central question: How do communist political leaders attempt to achieve the dual goals of development and socialist transformation? Offers a brief examination of the Soviet Union as a prototype of a communist political system. How successfully did the Soviet Union promote the transition to socialism? For answers, this course looks at subsequent revolutions in Eastern Europe, China, and Cuba to determine their adherence to, or rejection of, the Soviet model. What alternative strategies have evolved? Examines sources of change and limits to change in communist political systems.

Ms. Sochor

Offered every other year

225 BLACK POLITICS IN THE UNITED STATES/Lecture

Analyzes the distribution of power as it affects the black community. Among those topics to be explored are: black congressmen and lobbies, black politics in cities, the impact of blacks on the bureaucracy, and a comparison of Northern and Southern black politics.

Ms. Enloe, Ms. Grier

Offered every third year

228 ECONOMIC DEVELOPMENT/Lecture

Examines the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. Topics include agricultural development, income distribution, industrialization strategies, foreign aid and investment, population, labor, and employment.

Mr. Hsu

Offered every other year

229 MANAGEMENT OF ARID LAND/Lecture, Seminar

The drylands of the world present special development problems. Particularly prone to degradation, these regions face the difficult task of providing support for a rapidly growing population. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral characteristics, and physical constraints of dryland ecosystems are analyzed. Special attention is paid to evaluating the management strategies currently employed in the use of drylands, identifying the obstacles constraining their growth, and assessing their future development potential.

Mr. Johnson

Offered every other year

234 LATIN AMERICA: PROSPECTS AND PROBLEMS/Lecture

Deals with politics, history, culture, ethnology, and economic prospects for Latin America. Special emphasis will be placed on economic development and environmental concerns in selected countries, specifically on agrarian reform, agricultural development, environmental degradation, and deforestation. These themes will be evaluated for their progress in Latin America, and the special problems they present for the region.

Mr. Jones

Offered every year

236 INTERNATIONAL AND COMPARATIVE RESOURCE POLICIES/Lecture, Seminar

Deals with international and comparative law/policy of water resources, fisheries, land, oceans and seas, wildlife, air, and nuclear power. Within the context of each

of these topical areas, the course objectives are to define the "resource problem(s);" analyze existing institutions (i.e., property rights, management systems, and allocation regimes) and their responses to the problem, and consider conceptual guidelines for improving institutional arrangements and individual actions.

Ms. Emel

Offered every other year

239 SOCIAL STRATIFICATION, SOCIAL CLASS AND INTERNATIONAL DEVELOPMENT/Seminar

This course concerns itself with differential equality, distribution of rewards and resources, power and privilege, and their relationship and interaction with problems of development. Questions to be explored include the correlates of state systems, relationships between masses and elite, the failures of Marxism as an applied theory, and problems of underdevelopment and underutilization of intellectual resources. The Caribbean and Eastern Block nations will be given special attention.

Mr. Hagopian-Gerber

Offered every year

249 INTERNATIONAL POLITICAL ECONOMY/Lecture, Discussion

Refer to course description under Government 249.

Mr. Rosh

Offered every other year

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT/Lecture, Discussion

An examination of current approaches and methods in environmental management, with emphasis upon theories and skills needed for applied work in the field. The course is intended to provide an integration of skills and concepts in environmental geography through the examination of concrete management problems. Topics include history of environmental geography, environmental data bases, environmental and social impact assessment, writing research proposals, and decision-making aids.

Staff

Offered periodically

256 PROBLEMS IN WATER RESOURCES PLANNING/Problems course

Water resources planning techniques and water resources engineering, economic, social, and environmental topics are reviewed and applied in a realistic planning exercise. Students working in groups prepare, for a selected region or river basin, a preliminary planning document that could be used as a guide for future detailed planning. Emphasis is on the preparation and the written and oral presentation of the planning document in a professional manner that would be acceptable in the real world. Prerequisite: a 200-level course in environmental assessment; physical geography; economics; environment, technology, and society; or permission of instructor.

Mr. Schwarz

Offered every other year

257 THEORY OF MULTI-OBJECTIVE RESOURCE EVALUATION/Lecture

Introduction to the theory of multi-objective resource evaluation. Presents the full range of criteria required for the economic, social, and environmental evaluation of resource programs and projects, together with selected applications.

Staff

Offered periodically

258 SOUTH AFRICA AND DEVELOPMENT IN SOUTHERN AFRICA/Seminar

Examines problems of development in the southern Africa region with particular reference to the SADCC countries and the impact of South Africa on political and socioeconomic change.

Ms. Seidman

Offered periodically

265 MONEY, BANKING, AND PUBLIC FINANCE IN DEVELOPING COUNTRIES/Seminar

Explores the consequences of alternative approaches to domestic and international banking and financial institutions and the role of government in finance development in Third World countries.

Ms. Seidman

Offered every year

266 ETHNOLOGY AND DEVELOPMENT IN THE CARIBBEAN/Lecture, Seminar

Focuses upon various problems in the analysis of socioeconomic change in the Caribbean culture area, offering an extensive and intensive view of the politics, ethnology, problems, and prospects of development in the Caribbean.

Mr. Hagopian-Gerber

Offered every other year

267 POLITICAL ANTHROPOLOGY/Lecture, Discussion

Examines varying levels of sociopolitical culture. Cultures viewed include varying Caribbean societies, the United States and the Eastern Block. Analysis of state systems, both contemporary and historical is given specific attention.

Mr. Hagopian-Gerber

Offered every year

268 ECONOMIC ANTHROPOLOGY/Lecture, Discussion

A comparative study of tribal and state economic organizations, focusing on the ways in which production, distribution, and consumption are institutionalized cross-culturally. Topics to be considered include nature of work, the idea of surplus, modes of exchange and distribution, social structure, and political structure.

Mr. Hagopian-Gerber

Offered every other year

269 ENVIRONMENT AND DEVELOPMENT IN AFRICA/Lecture, Discussion

Efforts to promote economic growth in sub-Saharan Africa have resulted in mixed outcomes. Few successful development projects exist, and the difficulties posed by environmental constraints and human impacts on environment remain considerable. The complex relationship between nature, society, and technology in the use of Africa's resources is the focus of the course.

Mr. Johnson

Offered every other year

270 ANTHROPOLOGY OF A SMALL CITY: ID LOOKS AT WORCESTER/Seminar, Discussion

An examination of the structure and function of a small city that is undergoing major change. Problems of water use, land use, housing, crime, and management will be explored. The class attempts to develop a model of development of a small city.

Mr. Hagopian-Gerber

Offered every other year

271 FIELD METHODS: CONCEPTS AND ISSUES IN ANTHROPOLOGY/Seminar

Deals with theoretical and practical issues in the conduct of anthropological field work, including an intensive survey of the literature and instruction in use of tape recording and camera equipment involved in field work. It includes on-site experience, where students obtain and conduct a limited field research project.

Mr. Hagopian-Gerber

Offered every other year

272 INTERNATIONAL DIVISION OF LABOR/Seminar

As a result of the post-World War II revolution in technologies affecting transportation and communications, analysis of Third World development requires an

understanding of the consequences of the increasingly interrelated features of the global political economy. This course focuses on the role of transnational corporations and financial institutions in changing the international division of labor, and examines its impact on the living standards, conditions of work, and incomes of workers in agriculture and industry in both developed and developing countries. Alone or in groups, students are expected to develop a term project assessing the way the changing international division of labor has affected development in a specific country or region of their choice.

Ms. Seidman

Offered every other year

273 SEMINAR IN AFRICAN RIVER BASIN DEVELOPMENT/Seminar

Based on the experiences gained during research on the development of African river basins, research performed under a multiyear U.S. A.I.D. sponsored program, the course focuses on the problems, failures, and successes in African river basin development. Using the research reports prepared and the background material collected, the seminar critically examines planning, implementation, and operation of large scale river basin projects. Special emphasis is on the relation between technical performance and the social, environmental, and economic impacts on local communities, the region, and the national governments involved. Students research specific subjects or geographic areas and present short papers on their individual work for discussion. The final is a major individual paper on one aspect or one basin.

Mr. Schwarz

Offered every year

274 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

A general survey of life in the People's Republic of China from 1949 to the present. Includes a general history of the People's Republic, and special attention to such themes as politics, society, family life, agriculture, industry, science and technology, literature, the arts, foreign relations, law, medicine, and education.

Mr. Ropp

Offered every other year

275 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Examines the changing role of women in Chinese society from the seventeenth century to the present, primarily through the reading and discussion of Chinese literature in English translation.

Mr. Ropp

Offered every other year

276 CULTURAL ECOLOGY IN THE HUMID TROPICS/Lecture, Seminar

A mystique exists about the humid tropics. Midlatitude biases have led to inaccurate assessments of the composition of these wet, hot lands; of traditional uses of them; and of their suitability, both past and present, to support large populations and high living standards. These issues are examined by focusing on the range of environments and livelihood strategies that have existed or could exist in this region.

Mr. Turner

Offered periodically

278 DEVELOPMENT AND APPLIED ANTHROPOLOGY/Seminar

The anthropological approach to problems of economic development is of special interest due to the persistence of social problems within otherwise successful attempts at development. It is recognized at the outset that the concept of "development" is culturally "loaded," and if accepted uncritically can confuse any analysis. The course will focus on the development of "applied anthropology," and the cultural theories and models which underlie this approach. The major focus of the class is on "development anthropology," and its application in problems of

international economic and social change, and the methodologies associated with its implementation.

Mr. Jones

Offered every year

281 URBANIZATION AND MIGRATION IN AFRICA/Lecture, Discussion

Considers historical dimensions of African urbanization with special attention to the spatial and functional roles of cities. Agricultural, administrative, political, market, and industrial uses are examined, as is the impact of urbanization on African cultural values.

Mr. Ford

Offered every other year

283 SUPERPOWERS AND THE THIRD WORLD/Seminar

Considers the goals and policies of the superpowers toward the Third World and examines specific case studies of instances when these goals and policies were carried out, amended, or challenged. Some of the underlying questions posed in this course include the following: What are the superpowers' expectations of, and sources of influence on, the Third World? To what degree are North-South issues affected by East-West considerations? How are local problems exacerbated by superpower intervention? What foreign policy options do Third World countries have? What are the long-range prospects for the international system as a whole?

Ms. Sochor

Offered every year

284 LANDSCAPES OF THE MIDDLE EAST/Lecture, Seminar

A diverse array of landscapes, economies, and cultures comprise the Middle Eastern culture realm. The modernization and transformation of the traditional Islamic and non-Islamic patterns of life and livelihood in the Middle Eastern cultural mosaic are the focus of this course. Literature and ethnographic description supplement geographic analysis.

Mr. Johnson

Offered every other year

286 AGRICULTURE IN THIRD WORLD ECONOMIES/Lecture

Subsistence, transitional, and smallholder agriculturalists are the focus of investigation. Emphasis is placed on the economic behavior and livelihood strategies employed in these economies and on the theories of their change.

Mr. Turner

Offered periodically

287 POLITICS, POWER, AND PARTICIPATION: COMMUNITY ACTION IN THE THIRD WORLD/Seminar

Focuses on issues of local-level organization and participation in Third World countries. Investigates traditional forms of organization such as caste associations in India and more recent forms such as cooperatives in Kenya, Cuba, or Tunisia. Examines specific groups—the landless and near-landless; the urban poor; women; and particular ethnic, religious, clan, or caste groups—in regard to who participates and who gets left out. Patron-client relations, political parties, self-help associations, and peasant mass movements are analyzed for their roles in the process of socioeconomic and political change.

Ms. Thomas

Offered every other year

288 DISEASE AND HEALTH SERVICES IN THE THIRD WORLD/Seminar

This seminar examines epidemiology and geographic distribution of health problems in developing countries. The health systems created to address these problems also are studied in depth, including their effectiveness, costs, services utilized, and resources employed.

Staff

Offered periodically

289 POLITICAL ECONOMY OF DEVELOPMENT/Seminar

Problems of underdevelopment are examined via class discussions and student presentations. Typical problems covered include the industrialization of East Asia, the effects of underdevelopment on women, and regional development policy in Southern Africa.

Mr. Peet

Offered every year

290 DEVELOPMENT PROGRAMS AND PROJECT MANAGEMENT/Seminar

Explores relationships between development theory and project implementation as well as issues of program and project management. Topics include project design, implementation, management, budget monitoring, scheduling, and evaluation. Students develop one simulated project from beginning to conclusion as the major written assignment.

Mr. Ford, Ms. Thomas

Offered every year

293 OVERCOMING WORLD HUNGER—AGRICULTURAL RESEARCH AND INTERNATIONAL DEVELOPMENT/Seminar

This course reviews the achievements, shortcomings, and prospects for agricultural research in resolving problems of production in developing countries. Agricultural research over the past decades has been characterized by significant technological breakthroughs and improvements, and at the same time, by widespread policy breakdowns in the use of technological improvements. The identification of successes and failures in the agricultural development process triggered responses, both within international agricultural research centers and academic institutions in the developed world. This course treats the changes of the past decades, and especially focuses on strategies such as farming systems research, which attempt to introduce social considerations into agricultural research.

Mr. Jones

Offered every year

297 ENVIRONMENTAL MANAGEMENT FOR INTERNATIONAL DEVELOPMENT/Lecture, Discussion

An understanding of environmental management for development begins by critically examining the policies and methods of international donors and other development organizations responsible for aiding the environment. To complete this understanding, examples of local resource user systems are investigated to evaluate how the practices of individual managers in the Third World—farmers, herders, fishermen, etc.—are brought to bear on the environment.

Mr. Perritt

Offered every year

299.1 READINGS IN INTERNATIONAL DEVELOPMENT/Discussion

Variable credit and topics relevant to issues of international development.

Staff

Offered every year

299.2 RESEARCH IN INTERNATIONAL DEVELOPMENT

Variable credit, differing topics, may be associated with international development research projects.

Staff

Offered every year

302 THESIS RESEARCH

Master's degree candidates may register for thesis research while working on research for their master's degree thesis.

Staff

Offered every year

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY/Seminar

Designed for thesis- and dissertation-level students working in the areas of resources, development, and environmental cognition, who are developing proposals or preproposal research papers. The seminar provides a forum for discussion, criticism, and practical advice. Seminar paper.

Staff

Offered periodically

314 RESEARCH DESIGN AND METHODS/Seminar

Covers all the major topics in research design and methodology: e.g., problem definition, research strategies, measurement, sampling, and data collection techniques and procedures.

Mr. Mitchell, Ms. Hanson

Offered every year

330 SEMINAR IN CULTURAL ECOLOGY/Seminar

The "ecological transition," the increasing incorporation of nature into human culture, is the point of departure for an examination of the theory, method, and policy relevance of cultural ecology. Prerequisite: Geography 177 or equivalent.

Mr. Johnson, Mr. Turner

Offered every other year

336 HOUSEHOLD ECONOMIC BEHAVIOR AND THE GEOGRAPHY OF DEVELOPMENT/Graduate Seminar

Explores the nature and role of the household as a socioeconomic organization and primary decision-making unit in developing countries. Key issues relate to semisubsistence farm households, migration, urban-rural linkages, gender and age divisions of labor, women farmers, and cash crop versus food crop. Decision-making theory and the economics of household production are studied as a basis for household-level research on resource management.

Staff

Offered periodically

350 INTERNSHIP/FIELD WORK

Graduate students in International Development may elect to undertake field work over and above the 8 credits required for fulfillment of the Master's degree. Internship is normally overseas for purposes of research related to the thesis.

351 RESOURCE GEOGRAPHY: THEORY AND METHOD/Seminar

Examination of major theories and methods of resource estimation, allocation, and management. Provides coverage of the scholarly literature of the field

Mr. Kasperson, Ms. Emel

Offered every other year

358 PROFESSIONAL SEMINAR IN RESOURCE PROJECT EVALUATION/ Seminar

Covers best-practice applied methods of resource project evaluation as suggested by current research, the procedures of the World Bank, and leading U.S. resource agencies. The intent of the seminar is to bring advanced students to a level of preparation adequate for professional work in resource project evaluation.

Staff

Offered every year

360 DEVELOPMENT THEORIES AND PHILOSOPHIES OF CHANGE/Seminar

A graduate seminar that examines development theory relating theory, issues, and practice with an emphasis on the evolution of ideas and the search for alternative approaches to development interventions.

Ms. Seidman, Staff

Offered every year

370 ANIMAL AGRICULTURE/Lecture, Discussion

Animals and humans have a long history of close association. First as hunters and then as domesticators, humans have relied on animals for food, fiber, labor, and companionship. The ecology of many diseases also links people to the animals that they exploit. Today animals play an increasingly important role in efforts to increase food production and to improve diet quality in support of a growing human population. Both terrestrial and aquatic animal systems, and the theory and practice of their intensified exploitation, are examined in this seminar.

Mr. Johnson

Offered every other year

395 ECONOMIC DEVELOPMENT AND POLICY ANALYSIS/Seminar

This course reviews alternative approaches to planning for development in the Third World, ranging from that proposed by the World Bank and IMF to that suggested by a socialist perspective. It explores the issues relating to institutional change required to implement alternative kinds of plans in industry, agriculture, trade and finance. Students are expected (alone or working in groups) to develop a term project critiquing the formulation and implementation of development plans in any developing country they select.

Ms. Seidman

Offered periodically

396 INSTITUTIONAL CHANGE FOR DEVELOPMENT FINANCE/Seminar

Explores the structure of institutions in developing countries for finance and the issues surrounding the transformation of these institutions for development purposes.

Ms. Seidman

Offered periodically

For additional courses related to International Development, refer to the following History Department listings:

020 AMERICA AND THE WORLD/Lecture, Discussion

Refer to course description under History.20.

Mr. Billias, Mr. Little

Offered every year

177 LATIN AMERICAN HISTORY SINCE 1825/Lecture, Discussion

Refer to course description under History.

Mr. Little

Offered every year

179 THE HISTORY OF TRADITIONAL AFRICA/Lecture, Discussion

Refer to course description under History.

Mr. Ford

Offered every other year

180 HISTORY OF MODERN AFRICA/Lecture, Discussion

Refer to course description under History.

Mr. Ford

Offered every other year

181 TRADITIONAL CHINA/Lecture, Discussion

Refer to course description under History.

Mr. Ropp

Offered every other year

182 MODERN CHINA/Lecture, Discussion

Refer to course description under History.

Mr. Ropp

Offered every other year

184 MODERN JAPAN: THE RISE OF A GREAT INDUSTRIAL POWER/Lecture

Refer to course description under History.

Mr. Ropp

Offered every other year

281 THE PEOPLE'S REPUBLIC OF CHINA/Lecture, Discussion

Refer to course description under History.

Mr. Ropp

Offered every other year

282 CHINESE WOMEN IN LITERATURE AND SOCIETY/Lecture, Discussion

Refer to course description under History.

Mr. Ropp

Offered periodically

283 CLIMATE AND HISTORY: ANALYSIS OF THE INFLUENCE OF CLIMATE ON HISTORICAL CHANGE/Lecture, Discussion

Refer to course description under History.

Mr. Ford

Offered periodically

286 CITIES IN AFRICA/Lecture, Discussion

Refer to course description under History.

Mr. Ford

Offered every other year

291 ADVANCED TOPICS IN INTERNATIONAL RELATIONS/Seminar

Refer to course description under History.

Mr. Little

Offered every year

International Relations

PARTICIPATING FACULTY

Douglas Little, Ph.D., *program co-director*: U.S. foreign policy, modern Latin America

Robert Rosh, Ph.D., *program co-director*: international relations, Third World development

Daniel Borg, Ph.D.: modern Europe

Cynthia Enloe, Ph.D.: modern Asia, militarization

Beverly Grier, Ph.D.: modern Africa

Robert Hsu, Ph.D.: international economics, economic development

Michael Klein, Ph.D.: international economics

George Lane, M.A.: U.S. foreign policy, modern Middle East

Paul Lucas, Ph.D.: early modern Europe

Paul Ropp, Ph.D.: modern Asia, China

Robert Ross, Ph.D.: international political economy, urban studies

Zenovia Sochor, Ph.D.: Soviet Union, comparative foreign policy

Roger Van Tassel, Ph.D.: international economics

INTERNATIONAL RELATIONS CONCENTRATION

Clark's International Relations Program constitutes neither a department nor a major, but rather a concentration or a subfield within two existing majors, history and government. Recent developments in world affairs have broken down the old disciplinary boundaries between diplomatic history and international relations, making an interdisciplinary approach essential. The international relations concentration consists of a series of seven interrelated courses, designed to provide an integrated framework for understanding international affairs from historical, political, and economic perspectives.

Requirements

A. A student wishing to pursue a history concentration or a government subfield in international relations must take a *core cluster* consisting of three courses.

Core Cluster:

1. Economics 108, *International Financial Developments*
2. Government 169, *Introduction to International Relations*
3. History 238, *U.S. Foreign Relations Since 1914*

B. In addition, international relations concentrators must choose one of the following *analytic clusters*: World Economics, Comparative Diplomacy, or Self-Designed Area Studies.

World Economics Cluster (choose three of the following six courses):

1. History 125, *Development Problems*
2. Economics 128, *Economic Development*
3. Economics 176, *Comparative Economic Systems*
4. Geography 235, *Geography of the Capitalist World System*
5. Government 249, *International Political Economy*
6. Sociology 257, *Cities in Global Perspective*

Comparative Diplomacy Cluster (choose three of the following six courses):

1. History 60, *Africa and the World*
2. Government 179, *Comparative Foreign Policy*
3. Government 245, *U.S. Foreign Policy—Middle East*
4. History 250, *Formation of the Modern State*
5. History 253, *Twentieth-Century Europe*
6. Government 280, *Soviet Foreign Policy*

Self-Designed Area Studies Cluster (three courses):

Students wishing to concentrate on a particular region may select a set of three interrelated courses as their analytic cluster. For example, someone concentrating on modern Asia might choose Economics 177, *Chinese and Japanese Economies*; History 182, *Modern China*; and Government 236, *Politics of Philippines and Vietnam*.

C. Finally, international relations students must take a *capstone seminar* related to their analytic cluster. Examples of suitable capstone seminars include Government 289 and History 291, *Advanced Topics in International Relations*; History 281, *People's Republic of China*; and Government 283, *Superpowers and the Third World*.

D. International relations students must also fulfill the other existing requirements of their respective majors. International relations students should also note that Economics 10, *Issues and Perspectives* is a prerequisite for all 100-level economics courses.

Italian

See Department of Foreign Languages and Literatures.

Jewish Studies

PARTICIPATING FACULTY

Everett Fox, Ph.D., *director*: Hebrew Bible, Midrash, Jewish ritual and folklore, classical Jewish thought

Paul F. Burke Jr., Ph.D.: Greek and Latin language and literature, classical mythology, classical art and archaeology, ancient history
Yudith Nave, Ph.D.: Hebrew language and literature
Shelly Tenenbaum, Ph.D.: sociology of American Jewry, race/ethnicity, Holocaust studies

COURSES

The following courses in Jewish studies are offered in the Departments of History, Sociology, and Foreign Languages and Literatures. For course descriptions check the course listings under those departments. For further information concerning the Jewish Studies Program, to discuss the possibility of integrating Jewish studies courses within various departmental majors, or to develop a concentration or self-designed major in Judaica, contact Mr. Fox.

HEBREW LANGUAGE AND LITERATURE COURSES

(See Department of Foreign Languages and Literatures.)

101-102 ELEMENTARY HEBREW

Refer to course description under Hebrew.

Ms. Nave

103 INTERMEDIATE HEBREW

Refer to course description under Hebrew.

Ms. Nave

104 INTERMEDIATE/ADVANCED HEBREW

Refer to course description under Hebrew.

HEBREW LITERATURE/JEWISH STUDIES COURSES CONDUCTED IN ENGLISH

117 INTRODUCTION TO THE HEBREW BIBLE I: NARRATIVE AND LAW

Refer to course description under Hebrew.

Mr. Fox

118 INTRODUCTION TO THE HEBREW BIBLE II: PROPHECY AND POETRY

Refer to course description under Hebrew.

Mr. Fox

120 GREAT JEWISH LIVES

Refer to course description under Hebrew.

Mr. Fox

122 WORKSHOP IN JUDAISM: SACRED TIME AND THE LIFE CYCLE

Refer to course description under Hebrew.

Mr. Fox

123 THE MIDRASHIC TRADITION

Refer to course description under Hebrew.

Mr. Fox

127 MODERN JEWISH ETHICS

Refer to course description under Hebrew.

Staff

130 SUFFERING AND EVIL IN JEWISH TRADITION

Refer to course description under Hebrew.

Mr. Fox

185 MODERN JEWISH LITERATURE

Refer to course description under Hebrew.

Staff

HISTORY

174 THE JEWISH EXPERIENCE

Refer to course description under History.

Staff

276 MODERN JEWISH HISTORY AND THOUGHT/Lecture, Discussion

Refer to course description under History.

Staff

Offered every other year

277 HISTORY OF ZIONISM AND THE RISE OF ISRAEL

Refer to course description under History.

Staff

CLASSICS

123 THE MIDRASHIC TRADITION

Refer to course description under Hebrew.

Mr. Fox

262 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics.

Mr. Burke

SOCIOLOGY

203 AMERICAN JEWISH LIFE/Variable format

Refer to course description under Sociology.

Ms. Tenenbaum

Offered every year

204 THE HOLOCAUST: A STUDY OF GENOCIDE/Variable format

Refer to course description under Sociology.

Ms. Tenenbaum

Offered every year

Management

GRADUATE SCHOOL OF MANAGEMENT FACULTY

- Robert A. Ullrich, D.B.A., *dean*: organizational behavior and design
Mark S. Plovnick, Ph.D., *associate dean*: organizational development, team building
Richard J. Bartkowski, Ph.D.: managerial accounting, planning and control, behavioral implications of accounting systems
David A. Baucus, Ph.D.: business policy, organizational theory, economics, business and society
Melissa S. Baucus, Ph.D.: business ethics, organization behavior and organizational change
Alfred S. Boote, Ph.D.: marketing research, marketing strategy, consumer behavior
Robert C. Bradbury, Ph.D.: health systems planning, health promotion, cost containment
Robert M. Brown, Ph.D.: statistical decision making, operations management, production planning and inventory control
Gary N. Chaison, Ph.D.: union structure, government growth and collective bargaining, personnel administration
Jon A. Chilingerian, Ph.D.: health administration, financial control systems
Dileep G. Dhavale, Ph.D.: financial and managerial accounting, operations management, management science
Joseph H. Golec, Ph.D.: finance, industrial organization, public policy and regulation, money and banking, econometrics, macroeconomics
Harold T. Moody, Ph.D.: marketing research, marketing in service organizations
Edward J. Ottensmeyer, Ph.D.: business policy, management of technology and innovations
Charles P. Robinson, Ph.D.: optimization, mathematic programming, operations research
Maurry Tamarkin, Ph.D.: futures markets, corporate finance, diversification
Nancy E. Uhring, Ph.D.: direct marketing, services marketing, organizational buying behavior

ADJUNCT FACULTY

- Mark Bagshaw, Ph.D.
Rockie Blunt, M.A.
Bruce A. Campelia, M.B.A.
William P. Densmore, B.S.M.E.
Richard D. Fiorentino, M.B.A.
Donald E. Fries, M.B.A., J.D.
Arthur Gerstenfeld, Ph.D.
Thomas W. Landers, M.B.A., C.P.A.
Alice Livdahl, J.D.
Pamela Sherer, Ph.D.
Alan Simpson, Ph.D.
Jim Young, M.S., M.B.A.

AFFILIATE FACULTY

- Carolyn E. Cotsonas, J.D.
John Dimiceli, M.P.A.
N. Lynn Eckhert, M.D., Dr. P.H.
Peter H. Gann, M.D., M.S.
Gale L. Kelly, Ph.D.

John T. O'Connor, Ph.D.
Alan M. Stoll, M.P.A.
Keith J. Waterbrook, M.H.A.
William J. Waters, Jr., Ph.D.

UNDERGRADUATE PROGRAMS IN MANAGEMENT

The Graduate School of Management offers two programs to undergraduates: the undergraduate major and the five-year B.A./M.B.A. program. The program descriptions follow. Students with additional questions should contact the coordinator of undergraduate programs in management. Students with questions concerning the M.B.A. program should refer to the Clark University M.B.A. catalogue.

FIVE-YEAR B.A./M.B.A. PROGRAM

The Graduate School of Management offers undergraduate students the option of participating in a five-year program while at Clark. In this program they may earn a B.A. in their major, as well as the M.B.A. degree. The major features of the program are:

- 1) an undergraduate major in any of the liberal arts disciplines at the University. Business/management is not acceptable as a major for this program;
- 2) graduate courses, beginning in the senior year, which lead to the M.B.A. degree and help prepare students for management positions in business, government, and nonprofit organizations.

The five-year program is designed to meet several needs expressed by students today. It provides a well-rounded education by combining an undergraduate liberal arts education with a master's degree in business administration, and reduces the total time for getting a liberal arts bachelor's degree and an M.B.A. to five years.

The program is designed to provide education that will give both preparation for immediate employment and potential for growth toward important positions in organizations. Ultimately, the program bridges the gap between a liberal arts education and practical, applied learning.

The Program

The five-year B.A./M.B.A. program involves five sets of learning experiences:

- 1) undergraduate management courses in the sophomore and junior years
- 2) related courses in other departments in economics, statistics, computer programming, and mathematics, which contain the tools needed for the graduate courses in management
- 3) internship or work experience(s) in management situations to help prepare for graduate coursework
- 4) graduate management courses taken in the senior year
- 5) completion of the graduate M.B.A. program during the fifth year

Advising Students and Entrance into the Program

Students must plan their courses carefully during their undergraduate years in order to complete the requirements both for their major and for the M.B.A. program in the time available. The program's undergraduate adviser is available to help and advise any students interested in the five-year B.A./M.B.A. program.

Entrance into the program occurs after the sophomore year, but before the beginning of the senior year. Interested students submit an application to the Graduate School of Management for participation in the B.A./M.B.A. program. As part of the application process, students are required to submit transcripts of their freshman and sophomore years' work and are required to take the Graduate Management Admission Test (GMAT). Application approvals are conditional upon the successful completion of the B.A. degree.

Applicants should have completed all undergraduate prerequisite courses, except for Management 203, prior to applying to the program.

Work Experience

During the senior year, B.A./M.B.A. students take courses with regular M.B.A. students who typically have been working for several years. In order to develop some of this work world experience, the program expects the B.A./M.B.A. students to participate in internships, summer jobs, or other experiences that can provide exposure to management issues and environments. This exposure can be highly useful both in taking full advantage of the M.B.A. courses and in enhancing students' credentials and qualifications for job placement upon graduation from the M.B.A. program.

Program Requirements

- 1) Two undergraduate courses in management—201 and 203
- 2) Six related courses—Economics 10, 11, 160, Math 120, Computer Science 99 and 101
- 3) Fourteen M.B.A. courses—four as a senior and ten as a graduate, including electives.

Sample Schedule

An example of a schedule an economics major could pursue:

<i>Year</i>	<i>Fall Semester</i>	<i>Spring Semester</i>
Freshman	Computer Science 101 Economics 10 Elective Elective	Mathematics 11 Economics 11 Elective Elective
Sophomore	Management 201 Economics 205.1 Elective Computer Science 102	Economics 205.2 Economics 160 Mathematics 120 Elective
Junior	Management 203 Elective Elective Economics elective	Elective Elective Elective Elective
Senior	MBA 310 MBA 340 Economics elective Elective	MBA 330 MBA 350 Elective Economics Elective
Fifth Year	MBA 337 MBA 341 MBA 362 MBA 366 MBA 378	MBA 342 MBA 345 MBA 360 MBA 376 MBA 390

UNDERGRADUATE MAJOR IN BUSINESS/MANAGEMENT

Students interested in a career in management immediately after graduation, whether in a profit or nonprofit organization (business, government, education, health care, or a religious institution), should consider business/management as an undergraduate major. The major offers students the opportunity to develop skills useful for a career within the framework of a liberal arts education.

The business/management major draws on a variety of disciplines, providing a program that is both practical and broadly educational. Required and optional courses include offerings from a number of academic departments. Enrollment in the business/management major is limited and is based on performance in the freshman and sophomore year courses. Students apply for admission to the major at the end of their sophomore year.

Within the general requirements of the program, and consistent with the concept of the extended major, students may wish to concentrate their interests in particular offerings that relate to the aspect of management meeting their needs and interests. For example, computer science, mathematics, statistics, and accounting electives provide a basis for a career in data processing, planning, and related specialties; psychology, sociology, philosophy, and government stress human behavior in a social context; courses in environment, technology and society, or international development further an awareness of issues and skills useful in managing public and private responses to important issues; language and literature courses help develop oral and written communication skills essential in virtually all aspects of management.

Although students may extend their interests in any of the above directions, it should be noted that the general focus of the program is a humanistic one. This emphasis stems from the following considerations:

- a) the University's desire to place the program well within the liberal arts framework;
- b) a commitment to the idea that management, after all, means getting things done through people.

Business/management at Clark offers students a vocational emphasis providing the necessary prerequisites for job placement with a bachelor's degree. Students interested in graduate study towards an M.B.A. degree are encouraged to major in an area other than business/management and to consider the five-year B.A./M.B.A. program.

A student's required courses for completion of the management major are those that were in effect at the time he/she was accepted into the management program (between the sophomore and junior years). For a current listing of requirements, contact the Graduate School of Management.

Required courses for all majors

(Note: These courses should be taken approximately in the order listed.)

FRESHMAN AND SOPHOMORE LEVEL

Mathematics 120, *Introduction to Calculus I*

Economics 10, *Issues and Perspectives*

Economics 11, *Principles of Economics*

Management 204 or Computer Science 101, *Introduction to Computer Programming*

Management 201, *Principles of Accounting*

Management 202 or Economics 160, *Introduction to Statistical Analysis*

JUNIOR LEVEL

Management 203, *Managerial Accounting*

Management 210, *Management and Behavioral Principles*

Management 230, *Marketing Management*

Management 240, *Corporate Finance*

Management 250, *Operations Management*

Management 262 or Philosophy 133, *Business Ethics*

SENIOR LEVEL

Management 260, *Business Policy*

Management 278, *Business Law*

Track requirements for all majors: Students must, by the first semester of their junior year, declare themselves as pursuing track A, B, C, or D within the major. Four courses from a track are required for completion of the major. Two of these must be 200-level management courses. The tracks are: economics and finance, public sector management, human resource management, quantitative analyses for management. With permission from the program coordinator, students may design their own tracks.

A. *Economics and Finance*

Management 242, *Investments*; and Management 244,

Federal Tax Accounting; plus two of the following:

1. Economics 113, *Monetary Economics: Theory and Policy*
2. Any 200-level economics courses

B. *Public Sector Management*

Management 225, *Human Resource Management*; and

Management 226, *Industrial Relations*; plus two of the following:

1. Government 109, *Introduction to Public Policy and Administration*
2. Economics 126, *Public Policy Toward Business*
3. Economics 215, *Public Expenditures*
4. Sociology 246, *Social Planning and Social Policy*
5. MPA 320, *Policy Analysis**
6. MPA 330, *Public Budgeting**
7. MPA 350, *Public Administration in the American Democracy**
8. MPA 393, *Issues and Cases in Public Administration**

*available only to seniors, with permission.

C. *Human Resource Management*

Management 225, *Human Resource Management* and

Management 226, *Industrial Relations*; plus two of the following:

1. Psychology 170, *Social Psychology*; or Psychology 172, *Psychology of Personality*.
(Both cannot be taken for the track.)
2. Psychology 201, *Laboratory in Social Psychology*; or Psychology 206, *Laboratory in Personality*.
(Both cannot be taken for the track.)
3. Sociology 282, *Industrial Sociology*
4. Sociology 291, *Small Group and Interpersonal Processes*
5. Psychology 221, *Research in Social Psychology*
6. Psychology 269, *Seminar in Motivation*
7. Management 212, *Industrial Psychology*

D. *Quantitative Analyses for Management*

Management 251, *Operations Research*; or

Math 119, *Applied Linear Algebra*; and one other 200-level management selection, plus two of the following:

1. Any computer courses beyond CS 101
2. Math 164, *Mathematical Models*
3. Math 147, *Statistical Methods for Computer Science*
4. Economics 365, *Basic Econometric Theory* (permission only)

COURSES

201 PRINCIPLES OF ACCOUNTING/Lecture, Discussion

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, educational, and health. Staff Offered every year

202 INTRODUCTION TO STATISTICAL ANALYSIS/Lecture, Discussion

Examines basic concepts and techniques of statistical methods: descriptive statistics, permutation and combination, an introduction to probability theory, sampling distribution, standardized normal distribution and other related distributions, simple and multiple regression, simple forecasting, and statistical decisionmaking. Staff Offered every year

203 MANAGERIAL ACCOUNTING/Lecture, Discussion

This advanced course emphasizes accounting from the management perspective. Students learn principles of managerial decision making when using accounting information. Prerequisite: Management 201. Staff Offered every year

204 INTRODUCTION TO COMPUTER PROGRAMMING/Lecture, Discussion

An introductory programming course emphasizing use of the computer and either BASIC or Pascal programming language as a tool for problem solving in management. Students develop a working knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, and, most of all, structured programming techniques and algorithms that make programming easier. Staff Offered every year

210 MANAGEMENT AND BEHAVIORAL PRINCIPLES/Lecture, Discussion

Concerns general principles of management, with a special emphasis on the behavior of people in an organizational context. Topics include principles of organization, decision making, leadership, motivation and rewards, job satisfaction, and appraising employee performance. Staff Offered every year

212 INDUSTRIAL PSYCHOLOGY/Lecture, Discussion

A survey of major topics in the area of industrial/organizational psychology including, but not limited to: selection and placement, appraisal, motivation, productivity and job satisfaction, tests and measurement, group dynamics, and organization development and change. Staff Offered every year

225 HUMAN RESOURCE MANAGEMENT/Lecture, Discussion

Covers the general areas of human resource management, to include job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, manpower planning, and women in management. Staff Offered every year

226 INDUSTRIAL RELATIONS/Lecture, Discussion

An introduction to the concepts, theory, and practice of labor-management relations. Topics include: the development of the trade union movement; the structure, practices, and outcomes of collective bargaining; the administration of the collective

agreement; disputes resolution procedures; and the evolving public policy of labor relations.

Staff

Offered every year

230 MARKETING MANAGEMENT/Lecture, Discussion

Surveys the role of marketing in business and society, focusing on specific marketing activities. Topics include the marketing environment, marketing research and information systems, consumer behavior, the organizational consumer, products, pricing, distribution, promotion, international service, and nonprofit marketing. Prerequisites: Economics 10, 11 and Management 201, 202.

Staff

Offered every year

231 MARKETING RESEARCH/Lecture, Discussion

Marketing research focuses on consumer behavior and retail advertising. Topics include: primary and secondary data collection; questionnaires for attitude and awareness surveys, mail and phone surveys, personal interviews, focus groups, and data analysis techniques. Prerequisite: Management 230.

Staff

Offered every year

240 CORPORATE FINANCE/Lecture, Discussion

A comprehensive study of financial decision making from the perspective of the internal financial manager. Topics covered include valuation, loss of capital, capital structure, capital budgeting and financial analysis. Prerequisites: Economics 10, 11 and Management 201, 202.

Staff

Offered every year

242 INVESTMENTS/Lecture, Discussion

Covers investment principles, market behavior, and investment strategy. Investment principles include: portfolio selection, fundamental analysis, portfolio theory; debt instruments and money markets; the stock option market; and alternative investments. Prerequisite: Management 240.

Staff

Offered every year

250 OPERATIONS MANAGEMENT/Lecture, Discussion

Surveys techniques in the area of model building and operations research. Emphasis is on topics oriented toward business forecasting as well as rational decision making by managers. Topics include forecasting, inventory control, system reliability, waiting-line theory, and assembly-line balancing. Prerequisite: Economics 10, 11, 160, Management 201, Computer Science 101, and Math 11.

Staff

Offered every year

251 OPERATIONS RESEARCH/Lecture, Discussion

Linear models, linear programming, the simplex method, sensitivity analysis, network analysis, and dynamic programming.

Staff

Offered every year

260 BUSINESS POLICY/Lecture, Discussion

This capstone-type course should be taken during the senior year. It focuses on those general management skills involved in choosing the strategy (or goals and purposes) of an organization and in committing critical resources to the organization's goals. The course integrates the major management functions, viewing the organization not only as an organic entity comprising a system in itself, but also affecting and affected by its environment. The method of instruction is case study. Prerequisites: Management 210, 230, 240 and 250.

Staff

Offered every year

262 BUSINESS ETHICS/Lecture, Discussion

The social, political, technological, and ethical issues confronting the modern corporation make it necessary for the contemporary manager to develop a specific knowledge base and decision-making style in order to deal with complex situations. The course examines the relationship between organizations and the various environments in which they operate. Political, social, economic, and legal issues are considered, and the role of values and ethics in evaluating these environmental forces are analyzed.

Staff

Offered every year

278 BUSINESS LAW/Lecture, Discussion

Examines the legal framework within which American business operates. It is concerned with the various laws that determine the rights and obligations of persons taking part in business transactions. Emphasis is on those areas of the law commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. The goal is to provide students with a basis and understanding of the business and legal environment which will guide future management decisions and inquiry. There are assigned textual readings and class discussion of cases selected to illustrate these topics.

Staff

Offered every year

199 INTERNSHIP

Offered for variable credit

THE GRADUATE M.B.A. PROGRAM

The M.B.A. program has several unique features that should be evaluated by prospective students in light of their interests and preferences. The M.B.A. program is not solely committed to the study of business organizations. The faculty believes the study of management applies to all organizations, nonprofit as well as profit. Consequently, a theoretical core of each field of study is emphasized, and descriptive institutional material is used to particularize the core. The mix of students in the program, including current and future managers of educational, health, religious, government, and business organizations, forces the faculty to focus on the universal principles of managing. Graduate courses and seminars are scheduled during the day and in the evenings. These hours do not mean there is an evening program for part-time students, with a separate program in the daytime for full-time students. It is one program, with both part- and full-time students involved in the same courses, seminars, and special projects. This aspect of the program contributes to a unique atmosphere in which students learn from each other's wealth and variety of practical and academic experience.

The M.B.A. program requires eighteen graduate credits for the degree, an equivalent of four semesters of full-time graduate study. The eighteen credits are organized into four categories of course work and independent study (Courses meet for fourteen weeks, three hours a week, unless otherwise indicated.):

- 1) *Required Background Courses*—These courses are designed to introduce students to the fundamental language, concepts, and skills underlying the traditional or core functional fields of management. Students with previous course work or experience in these areas may elect to waive these courses by passing waiver exams.

MBA 301, *Management Accounting*

MBA 302, *Quantitative Methods*

MBA 303, *Management Economics*

MBA 304, *Introduction to Management Information Systems*

- 2) **Required Core Management Courses**—These courses are intended to provide students with knowledge and skills in several important areas in management.
MBA 310, *Organization Behavior*
MBA 330, *Marketing Management*
MBA 340, *Financial Management*
MBA 350, *Operations Management*
- 3) As capstone courses for the M.B.A., *Business Policy* (MBA 360) and *Corporate Social Responsibility* (MBA 362) are required.
- 4) **Electives**—These courses are designed to meet three objectives: To focus students more intensively on advanced topics in a particular functional area (e.g., marketing research), or to provide students with an opportunity to better understand previous course work by applying their knowledge/skills to a particular problem area (e.g., research and development management), or to provide students with an opportunity to explore important related topics in management (e.g., legal aspects of management).
- 5) **Optional Research Projects**—Students may engage in some form of faculty-supervised independent study in management in order to demonstrate their ability to apply management concepts and techniques to management problems. This research may take the form of empirical studies, comprehensive case analyses, development of quantitative models (e.g., for forecasting and inventory control), comprehensive review of previous work in some managerial area, or some other approved project.

This type of work must culminate with a major applied research project. The independent research project can be counted as one credit toward the eighteen credit requirement for the M.B.A. degree. For details, call program faculty.

BACKGROUND COURSES

MBA 301 MANAGEMENT ACCOUNTING/Lecture, Discussion

An introduction to accounting measurements, financial reporting issues and alternatives, and management utilization of accounting data.

Staff

Offered every semester

MBA 302 QUANTITATIVE METHODS/Lecture, Discussion

An introduction to basic mathematical and statistical techniques used by management. Topics include: probability, sampling theory, central limit theorem, estimation, inference, hypothesis testing, and regression and analysis of variance.

Staff

Offered every semester

MBA 303 MANAGEMENT ECONOMICS/Lecture, Discussion

Designed to provide an overview of micro- and macro-economics, this course helps students gain a general understanding of economics as it affects, and can be influenced by, the manager. Examples of subject areas covered include monetary and fiscal policies, national income and product accounts, demand and cost analysis, pricing, theory of production, business cycles, and forecasting.

Staff

Offered every semester

MBA 304 INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS/Lecture, Discussion

Presents an introduction to the mechanisms and procedures by which businesses collect, systematize, and use information. Topics include: information and the organization, recent developments in computer technology and their effect on management, development of information systems, and computer programming with hands-on experience using microcomputers.

Staff

Offered every semester

THE CORE CURRICULUM

MBA 310 ORGANIZATION BEHAVIOR/Lecture, Discussion

Designed to give students an opportunity to experience and investigate the relevance of the behavioral sciences to the study of management. The course explores the interaction between individuals and the systems in which they live and work, offering insight into the impact—on people and organizations—of individual differences, interpersonal interactions, group situations, organization structures, and the broader cultural context.

Staff

Offered every semester

MBA 330 MARKETING MANAGEMENT/Lecture, Discussion

Surveys the role of marketing in its environment. Topics include market targets and positioning, consumer behavior, product policy, pricing, distribution, promotion, international and industrial marketing, marketing of services. Text, readings, cases, and a term project supply experience in strategic market planning and management.

Prerequisites: MBA 302, 303.

Staff

Offered every semester

MBA 340 FINANCIAL MANAGEMENT/Lecture, Discussion

An introductory study of financial decision making from the perspective of the internal financial manager and of the major issues facing the financial manager involving optimal methods of raising funds, making investments, and paying out dividends. Prerequisites: MBA 301, 302, 303.

Staff

Offered every semester

MBA 350 OPERATIONS MANAGEMENT/Lecture, Discussion

Introduces the concepts, problems, and techniques necessary to manage an operating system. The term operations is used in a broad context, and it includes any system that produces goods or provides services in either a for-profit or not-for-profit organization. The course focuses on identifying and structuring operating problems and reviewing the appropriate techniques available for resolving these problems. Topics include: production design and process planning, layout of physical facilities, production standards and work methods, forecasting, inventory control, quality control, analytical methods in operations management, and material requirements planning. Prerequisites: MBA 301, 302, 303, 304.

Staff

Offered every semester

CAPSTONE COURSES

MBA 360 BUSINESS POLICY/Lecture, Discussion

Focuses on general management skills involved in choosing the strategy to achieve the organization's goals and purposes and to commit critical resources to goals. The course integrates the major management functions of marketing, finance, production, etc., viewing the organization as an organic entity—one that comprises a system in itself and also affects and is affected by its environment. Prerequisites: MBA 310, 330, 340, 350.

Staff

Offered every year

MBA 362 CORPORATE SOCIAL RESPONSIBILITY

Social, political, technological, and ethical issues confronting the modern corporation make it necessary for the contemporary manager to develop an appropriate knowledge base and decision-making style to deal with complex situations. The course examines the relationship between organizations and the various

environments in which they operate. Political, social, economic, and legal issues are considered, and the role of values and ethics in evaluating these environmental forces is analyzed. Prerequisites: MBA 310, 330.

Staff

Offered every year

ELECTIVES

MBA 311 ORGANIZATION STRUCTURE AND PROCESS/Lecture, Discussion

Focuses on the formal aspects of organizations, such as the structure of organizations (the division and coordination of labor), the normative patterns of organizations (the rules and regulations that stipulate appropriate personal and interpersonal behaviors), organization processes (decision making, communications, etc.), and the relationship of these topics to such factors as size, complexity, technology, and environmental influences. Prerequisite: MBA 310.

Staff

Offered every year

MBA 318 GROUP DYNAMICS/Lecture, Discussion

A review of basic group behavior theory and concepts is followed by a more detailed examination of groups as open systems. The class serves as a laboratory for observation and analysis and includes an intensive small group experience. Prerequisite: MBA 310.

Staff

Offered every year

MBA 320 ORGANIZATION DEVELOPMENT/Lecture, Discussion

A survey of organization development concepts and techniques (e.g., team building, quality of work life, action research, etc.) emphasizing applied behavioral science approaches toward (a) more effective management practices and (b) implementing changes in organizations. In addition to participating in cases, lectures, and exercises in class, students are expected to meet weekly in work teams. Prerequisite: MBA 310.

Staff

Offered every year

MBA 322 CONSULTING STRATEGIES AND SKILLS/Lecture, Discussion

Focuses on organization development change agent skills. Viewing the change agent as either an internal or external manager or consultant, the course uses a practicum approach in which students engage in and discuss actual projects. The course involves reading, classroom exercises and discussion, and projects in the areas of organizational diagnosis and change, training design and implementation, and change agent skills. Prerequisite: MBA 320. MBA 318 is recommended.

Staff

Offered every year

MBA 325 PERSONNEL MANAGEMENT/Lecture, Discussion

Explores the general areas of resource management, including job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO and OSHA requirements, and manpower planning.

Staff

Offered every year

MBA 326 INDUSTRIAL RELATIONS/Lecture, Discussion

An introduction to the concepts, theory, and practice of labor-management relations. Topics include the development of the trade union movement; the structure, practices, and outcomes of collective bargaining; the administration of the collective agreement; disputes resolution procedures; and the evolving public policy of labor relations.

Staff

Offered every year

MBA 327 COLLECTIVE BARGAINING/Lecture, Discussion

An examination of the institution and process of collective bargaining. Topics include the evolution of bargaining, theories of bargaining power and behavior, and the relevant legislative framework. The range of bargaining issues is described along with the variations in bargaining units. The grievance procedure is examined in regard to its role in the application and interpretation of agreements. Students participate in bargaining simulations.

Staff Offered every year

MBA 331 MARKETING RESEARCH/Seminar

Focuses on defining marketing research problems, choosing appropriate data collection and analysis tools, and interpreting research results to determine implications for marketing strategy. Topics include questionnaire design; sampling; mail and telephone surveys; focus groups; personal interviews; use of secondary data; regression; factor discriminant and decision analysis; and multidimensional scaling. Also includes a field project and written and oral reports. Prerequisite: MBA 330.

Staff Offered every year

MBA 333 MARKET PRICING/Lecture, Discussion

A marketing management approach to pricing products and services in consumer, industrial, and reseller markets. Topics include bargaining tactics, bidding strategies, pricing product lines for complex channels of distribution, life cycle and learning curve pricing, and intrafirm transfer pricing. The role of pricing departments, pricing information systems, and the integration of pricing decisions into the marketing mix are featured. Prerequisite: MBA 330.

Staff Offered every year

MBA 334 CONSUMER BEHAVIOR/Seminar

Studies consumers as individuals and in groups. Topics include: complex decision-making models, habit, law-involvement models, and buying behavior of organizations. Includes cases and term projects. Prerequisite: MBA 330.

Staff Offered every year

MBA 335 INTERNATIONAL MARKETING/Lecture, Discussion

Deals with marketing across national boundaries and within selected national markets. This course focuses on problems and decisions facing marketing managers in the international environment: products, pricing, and promotion necessary to coordinate a firm's international activities. Cases, readings, and research projects are used. Prerequisite: MBA 330.

Staff Offered every year

MBA 336 MARKETING OF SERVICES/Lecture, Discussion

This course studies the common elements in marketing service organizations such as the simultaneity of production and consumption and the need for direct involvement of clients with employees and company rules. A broad spectrum of service organizations such as health care organizations, accounting firms, bus lines, etc., are considered. Papers and reports from on-site visits are used for analysis and prescriptive recommendations. Prerequisite: MBA 330.

Staff Offered every year

MBA 337 INDUSTRIAL MARKETING/Lecture, Discussion

Examines special marketing problems of firms that produce products for other manufacturers or service organizations. This course is designed for students

interested in industrial product policy, pricing, promotion, and channels of distribution. Prerequisite: MBA 330.

Staff

Offered every year

MBA 338 ADVERTISING AND PROMOTION/Lecture, Discussion

A management approach to the promotion component of the marketing mix. Topics include: print, broadcast, and other advertising; personal selling; sales promotion; publicity, public relations, and display. Field project, written and oral reports, and cases are used. Prerequisite: MBA 330.

Staff

Offered every year

MBA 339 MARKETING IN A HIGH TECHNOLOGY ENVIRONMENT/Lecture, Discussion

This course is specifically tailored towards the high technology industries. Students explore the fundamentals of industrial marketing as influenced by technology-based markets and products, intense technology-fueled competition, and shortening product life cycles. Prerequisite: MBA 330.

Staff

Offered every year

MBA 341 CORPORATE FINANCE/Lecture, Discussion

Develops more fully the theoretical issues presented in MBA 340. Problems in implementation also are presented through analyses of cases. Although the student's knowledge of financial theory will be extended, emphasis is on the practical application of theory in specific situations. Prerequisite: MBA 340.

Staff

Offered every year

MBA 342 INVESTMENTS/Lecture, Discussion

Covers investment principles, market behavior and investment strategy. In addition to stocks and bonds, alternative investments such as tax shelters and options are discussed in light of risk-return analysis. Guest speakers from various sectors of the investment community present their views and discuss these with the class. Prerequisite: MBA 340.

Staff

Offered every year

MBA 344 FEDERAL TAX/Lecture, Discussion

A basic course in the principles of federal income tax laws as they pertain to individuals and organizations. Explores the general rules and accounting principles required, emphasizing preparation of tax returns through specific problem analysis. Prerequisite: MBA 301.

Staff

Offered every year

MBA 345 INTERNATIONAL FINANCE/Seminar

Focuses on specific problems encountered by financial managers in corporations with international financial functions. Topics include: foreign exchange risk, political risk, long-run investment and financing, working capital management, and financial control. Prerequisite: MBA 340.

Staff

Offered every year

MBA 346 FINANCIAL INSTITUTIONS/Seminar

Analyzes the role of banks and nonbank financial intermediaries in an advanced industrial economy. Attention is paid to the study of financial markets and institutions, the major financial intermediaries in the U.S. economy, the determination of interest rates, regulatory policy for financial institutions, and the impact of recent institutional and legislative changes on financial intermediaries. Prerequisite: MBA 340.

Staff

Offered every year

MBA 347 MODERN PORTFOLIO THEORY/Seminar

A course helpful to students interested in furthering their skills in investment management. Initially, the class covers the efficient markets hypothesis and utility theory. From this foundation, investment models are developed theoretically, and the necessary simplifications for implementation of the models are discussed. Prerequisite: MBA 340.

Staff Offered every year

MBA 348 INTERNATIONAL INVESTMENTS/Lecture, Discussion

Covers investment principles, market behavior, and investment strategy in the U.S. and other global markets. The course reviews investment management techniques for individuals. Weekly discussions focus on current global economic and market conditions. Prerequisite: MBA 340.

Staff Offered every year

MBA 349 SPECULATIVE MARKETS/Lecture, Discussion

A practical approach to the study of exotic investments, among them stock options, commodity futures, financial futures, foreign exchange, gold, gems, art, and real estate. As an aid to investment analysis, techniques of charting are presented. Prerequisite: MBA 340.

Staff Offered every year

MBA 351 OPERATIONS RESEARCH/Lecture, Discussion

An advanced study of operations research techniques useful in business and management decision making, including classical optimization, linear and integer programming, network models, dynamic programming, queuing theory, Markov processes, and simulation methods. Prerequisite: MBA 350.

Staff Offered every year

MBA 352 SEMINAR IN MANAGEMENT INFORMATION SYSTEMS/Seminar

Presents a compendium of recent theory and developments in management information systems. Topics include conceptual foundations of information systems, office automation, decision support systems, the factory of the future, artificial intelligence and expert systems, and management of information. Course requirements include an independent project. Prerequisite: MBA 304.

Staff Offered every year

MBA 354 THE MANAGEMENT OF RESEARCH, DEVELOPMENT, AND ENGINEERING/Seminar

Presents an overview of the characteristics unique to managing research, development, and engineering (RD&E). Some of the topic areas covered are the economics of RD&E, project selection and scheduling, productivity in the RD&E setting, organization and management of RD&E, information flows and communication patterns, interaction with other parts of the firm, and planning for RD&E. Prerequisites: MBA 310, 350.

Staff Offered every year

MBA 355 PRODUCTION MANAGEMENT/Seminar

Focuses on the complex decisions a production manager faces. Topics include the design of forecasting, production planning, inventory control, and quality control systems, and how each of these systems is integrated into the firm as a whole. The course concentrates on material requirements planning and manufacturing resource planning (MRP) and distribution resource planning (DRP) as the underlying

systems involved in computer integrated manufacturing. Cases, readings, and projects are used. Prerequisite: MBA 350.

Staff

Offered periodically

MBA 361 SMALL BUSINESS MANAGEMENT/Lecture, Discussion

A survey of the particular problems involved in initiating and operating a small business, with special emphasis on the problems of market structure, finance, and productivity. Entrepreneurial organization and style are discussed relative to a growing and increasingly complex society. Case studies, field research projects, and other approaches are used. Prerequisites: MBA 310, 330, 340, 350.

Staff

Offered every year

MBA 365 INTERNATIONAL BUSINESS/Seminar

Focuses on specific problems encountered by corporations in planning for or managing international operations. Topics include: marketing and operational issues of doing business abroad, evaluating overseas manufacturing, banking and investment, risk management (both financial and political), and other international business considerations. Focus will include small business as well as large corporate concerns. Prerequisites: MBA 310, 330, 340.

Staff

Offered every year

MBA 366 THE GENERAL MANAGER/Seminar

Focuses on applications of management concepts and techniques from the perspective of the general manager or chief executive officer. Topics include developing the mission and strategy, linking strategy to operations, building and coaching cross-functional business teams, achieving superior customer satisfaction, encouraging innovation, and assuring enlightened human resource practices. Includes lecture, reading, and discussion of situations drawn from the experiences of class members and the instructor. Focus is on large multinationals as well as small businesses and includes not-for-profit institutions. Prerequisites: MBA 301, 310.

Staff

Offered periodically

MBA 375 INTERNATIONAL MANAGEMENT/Seminar

Studies issues facing managers in an international setting. The course builds on behavioral and economic principles to explore the problems involved in operating in different socioeconomic systems. The primary focus is on the interaction of the manager with various constituencies and parts of the environment of an international/multinational firm. Text, readings, and case assignments are used. Prerequisites: MBA 303, 310.

Staff

Offered periodically

MBA 376 SENIOR EXECUTIVE SEMINAR/Seminar

M.B.A. candidates meet with presidents, chairpersons, CEOs, and senior corporate officers for an off-the-record, question-and-answer seminar. Executives come from a wide variety of organizations, and all have the experience and responsibility of making decisions that affect the future of their organizations. Typical discussions focus on the speakers' values and priorities; ways of thinking about different kinds of problems; attitudes toward their competitors, their industry, and people within their own organization; their personal assessment of the past and outlook for the future. Students chair the meetings and prepare the briefing and the debriefing sessions. The seminar is run in a formal, business-like fashion. Enrollment is limited. Prerequisites: MBA 301, 302, 303, 310.

Staff

Offered every year

MBA 378 LEGAL ASPECTS OF MANAGEMENT/Seminar

Examines the legal framework within which American business operates. The course is concerned with various laws that determine both the rights and obligations of persons taking part in business transactions. Emphasis is on those areas of the law commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. Assigned readings and class discussion of selected cases illustrate these topics.

Staff Offered every year

MBA 380 MANAGERIAL ACCOUNTING, PLANNING AND CONTROL/Lecture, Discussion

An introduction to the theory and practice of planning and control in organizations, including an analysis of the role of managerial accounting. This course offers a balance between learning procedural techniques and critically evaluating potential consequences of implementing accounting control procedures. Prerequisite: MBA 301. MBA 310 is recommended.

Staff Offered every year

MBA 381 ACCOUNTING AND FINANCIAL ANALYSIS/Lecture, Discussion

An introduction to financial statement analysis with emphasis on the study and interpretation of selected accounting and reporting alternatives. Prerequisite: MBA 301.

Staff Offered every year

MBA 382 ACCOUNTING INFORMATION SYSTEMS/Lecture, Discussion

Explains various controls and accounting procedures for collecting, measuring, summarizing, and reporting financial data generated by an organization's various operating activities. Emphasis is on procedural techniques and understanding the flow of financial data through an organization's accounting system. Prerequisites: MBA 301, 304.

Staff Offered every year

MBA 386 COST MEASUREMENT AND CONTROL/Lecture, Discussion

Emphasizes cost collection and analysis and control procedures of manufacturing organizations. This course explains the relevance of various accounting data for managerial decisionmaking in manufacturing and nonmanufacturing organizations. Topics include standards, standard costing, variance analysis, detailed budget preparation, cost accumulation procedures, and various cost control and performance evaluation issues. Prerequisite: MBA 301.

Staff Offered every year

MBA 390 MANAGERIAL COMMUNICATIONS/Lecture, Discussion

This course is designed to help managers communicate with confidence by showing them how to write clear memos, letters, reports and proposals, as well as deliver effective oral presentations. Through active class participation and in-class writing, students will develop confidence in their ability to communicate successfully.

Staff Offered every year

MBA 398 DIRECTED RESEARCH IN MANAGEMENT/Seminar

Independent research on selected topics in management. Can be taken for one course credit with approval of a faculty sponsor and M.B.A. program director.

Staff Offered every year

MBA 399 DIRECTED READINGS IN MANAGEMENT/Seminar

Individual instruction under the sponsorship of a faculty adviser. Offered for variable credit. Restricted to topics not covered within other courses in the curriculum. A faculty sponsor and the permission of the M.B.A. program director are required.

Staff

Offered every year

THE GRADUATE MASTER OF HEALTH ADMINISTRATION PROGRAM

The M.H.A. is a joint program offered in conjunction with the Department of Family and Community Medicine of the University of Massachusetts Medical School. The M.H.A. program combines the study of management and health, thereby reflecting the administrative and technological complexity of modern health systems.

Students may concentrate in either of two specific areas:

- 1) *health institution administration*—preparing students for careers or career advancement in such fields as hospital administration and health care administration.
- 2) *health systems planning and administration*—preparing students for careers or career advancement in health agencies such as health maintenance organizations, mental health agencies, industrial health programs, health planning agencies, and home health agencies.

The Clark/UMass program is oriented toward students with significant prior work experience in any health field, and nearly all of the students participating in the program are currently employed in health professions. The program will consider exceptionally qualified applicants with little or no experience in the health profession and will arrange a required field experience for those students.

Within the program's framework, students can design individual courses of study to meet their needs, and individual counseling is available to students as they plan curricula, internships, and field projects. In addition to background courses, core courses, and electives, a required field project develops problem-solving skills in a professional context.

The M.H.A. program requires sixteen graduate credits for the degree, an equivalent of four semesters of full-time graduate study. The sixteen credits are organized into five categories of course work and independent study (courses meet for fourteen weeks, three hours a week, unless otherwise indicated):

- 1) *Three Required Background Courses*—These courses are designed to introduce students to the fundamental language, concepts, and skills underlying the traditional or core functional management areas and provide a framework for health systems analysis.

Management 301, *Managerial Accounting*

Management 302, *Quantitative Methods*

MHA 320, *Health Systems*

Students with previous course work or experience in these areas may elect to waive these courses by passing a written or oral examination.

- (2) *Seven Required Core Courses*—These courses are intended to provide students with basic background knowledge and skills in several important areas in management and health systems.

MHA 310, *Organization Behavior*

MHA 330, *Epidemiology*

MHA 340, *Health Planning*

MHA 350, *Economic Aspects of the Medical Care Industry*

MHA 360, *Legal Aspects of Health Care Administration*

MHA 370, *Financial Management of Health Institutions*

MHA 380, *Health Systems and Institutions Policy Analysis*

- 3) *Two Courses Required in a Student's Area of Concentration*—Two areas of concentration are available: Health Institution Administration
 MHA 390, *Management Information Systems for Health Administration*
 MBA 330, *Marketing Management*
 Health Systems Planning and Administration
 MHA 376, *Sociology of Health Care*
 MHA 378, *The Human Ecology of Illness and Health Care*
- 4) *Three Electives*—These courses are designed to focus students more intensively on advanced topics in a particular functional area, or to provide students with an opportunity to better understand previous course work by applying their knowledge/skills to a particular problem area, or to provide students with an opportunity to explore important related topics in management and health systems.
 MHA 341, *Hospital Planning*
 MHA 381, *Case Studies in Health Administration*
 MHA 382, *Case Studies in Hospital Administration*
 MHA 383, *Ambulatory Care Administration*
 MHA 384, *Long -Term Care Administration*
 MHA 385, *Health Promotion and Disease Prevention*
 MHA 374, *Information Management*
 MHA 398, *Directed Research*
 MHA 399, *Directed Readings*
- 5) *Applied Field Project*—MHA 400: independent study to demonstrate the student's ability to apply health administration concepts.

COURSES

BACKGROUND COURSES

MBA 301 MANAGERIAL ACCOUNTING

Refer to course description under MBA 301.

MBA 302 QUANTITATIVE METHODS

Refer to course description under MBA 302.

MHA 320 HEALTH SYSTEMS/Lecture, Discussion

Examines various input-through-output models of health systems and discusses information necessary to understand the variety of components and linkages. The systems approach is used to identify key issues in various health service sectors, particularly primary care, hospital service, and high technology services. Discussions and student papers focus on key policy issues related to health systems in the United States and other countries.

Staff

Offered every year

REQUIRED CORE COURSES

MHA 310 ORGANIZATION BEHAVIOR IN HEALTH ADMINISTRATION/Lecture, Discussion

Focuses on understanding human behavior in the organization context with implications for effective management. Specific managerial techniques intended to improve the utilization and coordination of human resources in organizations are explored through case studies and exercises.

Staff

Offered every year

MHA 330 PRINCIPLES OF EPIDEMIOLOGY/Lecture, Discussion

Covers the basic principles and skills used by the epidemiologist to uncover and explain disease patterns in humans. Included are description of disease by person, place, and time; principles of study design; and analysis and interpretation of epidemiologic data. Emphasis is on practical application through examples from literature as well as student projects.

Staff

Offered every year

MHA 340 HEALTH PLANNING/Lecture, Discussion

Examines health planning concepts and methods with considerable attention to their practice at the local, regional, state, and national level. Topics discussed include the history of health planning in the United States, health systems analysis, goal and priority setting, cost effectiveness studies, politics of health planning, plan implementation, and program evaluation. Analyses of actual health plans are included.

Staff

Offered every year

MHA 350 ECONOMIC ASPECTS OF THE MEDICAL CARE INDUSTRY/Lecture, Discussion

Examines the economic aspects of the health services system in the United States in terms of production, distribution, and institutional structure. Topics discussed include determining demand for medical care, financing and delivery mechanisms and their effects, and the medical manpower market. The role of government planning and regulation of the medical care industry also is studied. Particular emphasis is given to economic analysis of the major alternative programs being proposed to restructure the American medical care system. No previous training in economics is necessary; economic concepts are explained as the course progresses.

Staff

Offered every year

MHA 360 LEGAL ASPECTS OF HEALTH CARE ADMINISTRATION/Lecture, Discussion

Focuses on the study of the legal foundations, principles, and processes that influence the provision of individual and community health services. Consideration is given to the origins of health law, individual and corporate liability, the physician/patient relationship, legal aspects of hospital administration, health legislative activities, and controversial medical/legal issues.

Staff

Offered every year

MHA 370 FINANCIAL MANAGEMENT OF HEALTH INSTITUTIONS/Lecture, Discussion

A comprehensive study of financial decision making in hospitals and other health care institutions. Topics covered include both the varied sources of financing and the efficient allocation of resources. The main format is the use of accounting data to implement economic models. Prerequisites: MBA 301, 302, and MHA 350.

Staff

Offered every year

MHA 371 HEALTH CARE MANAGEMENT/Seminar

Surveys the field of health care management from the perspective of the manager. The course covers some of the major managerial issues in health care, which include understanding the job of the manager, managing professionals, organization structure and design, organization efficiency and effectiveness, strategic management, and the major organizational processes, such as leadership, budgeting, power, decision making, and implementation.

Staff

Offered every year

**MHA 380 HEALTH SYSTEMS AND INSTITUTIONS POLICY ANALYSIS/
Seminar**

A synthesis of background and core coursework using case studies that focus on multidisciplinary solutions to actual problems. About half of the case studies involve health system problems, and half refer to health institution problems. Prerequisites: MBA 301, 302, and MHA 310, 320, 330, 340, 350, 360, 370.

Staff

Offered every year

CORE COURSES (INSTITUTIONAL ADMINISTRATION CONCENTRATION)

MBA 330 MARKETING MANAGEMENT/Lecture, Discussion

Refer to course description under MBA 330.

**MHA 390 MANAGEMENT INFORMATION SYSTEMS FOR HEALTH
ADMINISTRATION/Lecture, Discussion**

Focuses on various issues a health care manager faces regarding management information systems. Topics include conceptual foundations for information systems, managing and organizing the information services function, system implementation, the concept of decision support systems, use of financial planning models and other computer-based planning models, and some selected quantitative methods for health care. Research projects and hands-on computer experience are stressed.

Staff

Offered every other year

**CORE COURSES (HEALTH SYSTEMS PLANNING AND ADMINISTRATION
CONCENTRATION)**

MHA 376 SOCIOLOGY OF HEALTH CARE/Seminar

Basic concepts in sociological analysis are applied to hospitals and other care facilities as social structures, to the social definition of illness, and to health behavior. Discussion of social movements and their implications for the future of health care delivery. Included in these discussions are the rise of technology vis-a-vis the therapeutic relationship and the growing tendency of individuals to take more responsibility for their own well-being (yoga, etc). Students develop models for broadly conceived solutions to major problems in the American health care system.

Staff

Offered every year

**MHA 378 THE HUMAN ECOLOGY OF ILLNESS AND HEALTH CARE/Lecture,
Discussion**

Emphasizes the interplay of psychological and environmental influences on health, illness-associated behaviors, and the provision of health care services. Traditional medical perspectives are critiqued, and the possibilities of an ecological framework for examining health and health care issues are discussed.

Staff

Offered every year

ELECTIVES

MBA 336 MARKETING OF SERVICES/Lecture, Discussion

Refer to course description under MBA 336.

MHA 341 HOSPITAL PLANNING/Seminar

Examines input-output models of hospital systems and applies these models to problem identification, goal and objective setting, strategy development, and

project evaluation. Also focuses on environmental factors influencing change in hospital systems. Actual hospital plans are analyzed.

Staff

Offered every year

MHA 381 CASE STUDIES IN HEALTH ADMINISTRATION/Seminar

Focus is on hospital and multihospital systems. Cases relate to topics such as long-range facility planning, sharing hospital services, hospital responses to community needs, small hospital issues, hospital mergers, and multihospital systems. Students prepare written analyses of case studies for classroom discussion.

Staff

Offered every year

MHA 382 CASE STUDIES IN HOSPITAL ADMINISTRATION/Seminar

Focus is on internal hospital problems and managerial responses. Cases relate to personnel, equipment, inventory, financing, and policy issues in a variety of hospital types ranging from university teaching hospitals to small rural hospitals.

Staff

Offered every year

MHA 383 AMBULATORY CARE PLANNING AND ADMINISTRATION/Seminar

Applies planning and administration concepts and methods to the variety of ambulatory care institutions, including freestanding health centers, HMOs, and hospital outpatient departments.

Staff

Offered every year

MHA 384 LONG-TERM CARE ADMINISTRATION/Seminar

Applies management concepts to nursing homes and other long-term care programs. The course focuses on management of personnel, financial and other resources, and on strategic planning to respond to present and future environmental factors. Case studies are used.

Staff

Offered every year

MHA 385 HEALTH PROMOTION AND DISEASE PREVENTION/Seminar

Utilizes a natural history-of-disease framework to identify and evaluate prevention/promotion strategies. Among the primary prevention approaches examined are those addressing specific types of cancer, heart disease, substance abuse, mental illness, and infectious diseases. A broad range of screening services (secondary prevention) are also studied. Strategies are evaluated in terms of their effectiveness, costs, target population, resources, and service protocols. Student papers and presentations on specific health promotion and disease prevention programs are required.

Staff

Offered every year

MHA 399 DIRECTED READINGS

MHA 400 APPLIED FIELD PROJECT

Mathematics and Computer Science

DEPARTMENT FACULTY

David Joyce, Ph.D., *chair*: algebraic topology, combinatorics, computer science
Salman Abdulali, Ph.D.: algebraic number theory, algebraic geometry

Arthur Chou, Ph.D.: differential geometry; theoretical computer science
 Edward Cline, Ph.D.: algebra, representation theory of algebraic groups
 Fred Green, Ph.D.: computational complexity
 John F. Kennison, Ph.D.: topology, category theory
 Robert W. Kilmoyer Jr., Ph.D.: algebra, representation theory of groups, artificial intelligence
 Lawrence E. Morris, Ph.D.: automorphic representations, algebraic geometry
 Mark Muzere, Ph.D.: Lie algebra cohomology
 Shi-shyr Roan, Ph.D.: algebraic geometry, complex analytic geometry, mathematical physics
 Lee Rudolph, Ph.D.: low-dimensional topology, algebraic geometry
 William Sloan, Ph.D.: expert systems, artificial intelligence
 Natalia Sternberg, Ph.D.: applied mathematics, differential equations, scientific computing
 Evelyn Vaskas, Ph.D.: number theory

UNDERGRADUATE PROGRAM

The department supports undergraduate majors in computer science and in mathematics. It also offers courses of a general nature to meet the needs of students at all levels who are interested in mathematics as a discipline in itself or as a foundation for further study in other disciplines.

MATHEMATICAL SERVICES: A variety of elementary mathematical needs are met by the *Math Clinic and Tutorial* (Mathematics 10). Students work at their own pace and choose a program suited to their own needs. This is a noncredit course offered through COPACE.

Math 100, *Precalculus*, reviews algebra, logarithms and exponentiation, and trigonometry. It serves as a precalculus course and as a course covering the material requisite for other 100-level math courses. Students may also use this course as a way to strengthen their background in high school mathematics.

GENERAL COURSES: Knowledge of calculus (beginning with Math 120, *Calculus I*, or Math 124, *Honors Calculus I*) is essential for any serious student of the natural sciences or mathematics. It also is used heavily in economics and has been applied extensively in other disciplines.

Math 120 and 124 are normally open to freshmen; however, students with a weak background are advised to take Math 100, *Precalculus*, first. A placement test is given during orientation and preregistration weeks, and other diagnostic tests are available for students who are uncertain about which course to take. These placement tests are available at the department office. It is possible to omit Math 120 and Math 121, *Calculus I and II*, and begin with Math 130, *Intermediate Calculus*, if sufficient achievement is shown on the advanced placement test given in high school. Students who achieve such advanced placement automatically receive credit for Math 120 and 121. Serious students may wish to take *Honors Calculus* (Math 124, 125).

Students interested in computer science should begin with Computer Science 101, *Computer Programming I*, (which is a prerequisite to all higher numbered computer science courses) to be followed by Computer Science 102, *Computer Programming II*.

Linear Algebra (Math 119, 133) has many applications in the natural and social sciences, as does *Statistical Methods* (Math 147). *Mathematical Models* (Math 164) discusses how mathematics is used in social sciences.

Students who want to experience some of the beauty of mathematical reasoning at an elementary level might take Math 102, *Geometry*, Math 104, *Number Theory*, or Math 107, *Logic*.

CLUSTERS IN COMPUTER SCIENCE AND MATHEMATICS

Although the University does not require that students have a minor, many majors require that students take a number of courses in another subject. These courses are variously called "clusters," "concentrations," "specializations," or simply "related courses." A good collection of courses for a computer science cluster includes Computer Science 101-102, *Computer Programming*, Math 114, *Discrete Mathematics*, Computer Science 140, *Assembly Language*, and Computer Science 160, *Data Structures and Algorithms*. Depending on the major, however, other courses may be more appropriate. For instance for psychology majors, Computer Science 210, *Artificial Intelligence*, would be more appropriate than *Assembly Language*. Another good course is Computer Science 170, *Comparative Analysis of Programming Languages*. Clusters in mathematics would start with Math 120-121, *Calculus*, or Math 124-125, *Honors Calculus*, followed by other courses which would depend on the application area. Courses with wide application include Math 119, *Applied Linear Algebra*, Math 130-131, *Multivariate Calculus*, Math 164, *Mathematical Models*, and Math 217-218, *Mathematical Statistics*.

THE MAJORS IN MATHEMATICS AND COMPUTER SCIENCE

The department offers majors in computer science and in mathematics. The requirements for the various tracks have been changed from those described in the 1986-1988 *Clark University Academic Catalogue*. Students declaring a major after June 1, 1988, must satisfy the requirements listed below. Those who declared before June 1, 1988 may satisfy either the old requirements or these new requirements. The department requires that courses within the major be taken on a graded basis.

THE COMPUTER SCIENCE MAJOR

The computer science major has been designed for the education of computer scientists who also will have a solid background in mathematics. The major has been broadened to allow students to concentrate in various fields in computer science. To encourage breadth, the department requires the student to do significant work in a related area.

REQUIREMENTS FOR THE COMPUTER SCIENCE MAJOR	Credits
Computer Science 101, 102	2
Three of Math 119, Math 147, Computer Science 145, Computer Science 215	3
Math 114	1
Computer Science 140	1
Computer Science 160	1
Math 120, 121 or Math 124, 125	2
Two 200-level courses (excluding Computer Science 215, if taken as one of the above)	2
Capstone Computer Science 201	1
Other Math or Computer Science course	1
Four-course cluster	4
TOTAL	18 credits

Note that Computer Science 99 and Math 100 are not allowed as credit for the 18 courses required for the Computer Science major. The department requires a four-course-unit cluster in any subject. The cluster may be selected from any department or program. Introductory courses for non-majors are not to be counted in the cluster. If the cluster is chosen in mathematics, then eighteen units are

required in computer science and mathematics, and four units of these must not be taken as part of the fulfillment of the major requirements described above.

SUGGESTED SPECIALIZATIONS IN COMPUTER SCIENCE

For students who intend to go to graduate school, the department particularly recommends the following courses: Physics 117, Computer Science 145, Computer Science 215, Math 119, Math 147, Computer Science 230-231 and Computer Science 170.

Students interested in the principles of software development could consider choices from Computer Science 170, Computer Science 210, Computer Science 215, Computer Science 220, and Computer Science 250 or 231.

Students interested in using the computer as a modeling tool in applied mathematics should consider the courses Math 158, Math 164, Math 119, Math 147, and Physics 115. Alternatively, they could major in applied mathematics with a cluster in computer science (perhaps the better option).

THE MATHEMATICS MAJOR

The mathematics major is flexible and allows students to tailor it to their needs. After the description of the requirements, there are suggestions for concentrating in pure mathematics, applied mathematics, and actuarial science. Besides the requirements for a mathematics major described here, there are special requirements for the mathematics/education major described later.

REQUIREMENTS

All students majoring in mathematics must have a major adviser chosen from the permanent members of the department.

Course requirements are divided into core courses, depth courses, breadth courses, capstone, and cluster courses.

Core courses: Two years of calculus and one semester of linear algebra. The calculus courses include either Math 124-125 or Math 120-121, and Math 130-131. Linear algebra is Math 133 (or Math 119 with major adviser's permission).

Breadth courses: Two semester courses selected from Math 102, 104, 105, 107, 114, 147, 158, and 164. With your adviser's approval you may substitute one or two computer science courses, or reading courses.

Depth courses: Four one-semester courses in mathematics at the 200-level, selected from Math 213, 216, 217-218, 225-226, 228-229, and 244. The courses you choose should represent your strongest interest in mathematics.

Capstone: The capstone course is Math 201, *Proseminar in Mathematics*, normally taken in your last semester at Clark.

Cluster: A four-course cluster in a subject other than mathematics.

Note that all courses for the major must be taken on a graded basis. Also, neither Math 100 nor COPACE courses count toward a major in mathematics.

SUGGESTED SPECIALIZATIONS IN MATHEMATICS

Pure mathematics is the study of mathematics for its own sake. Applications to other fields are not ignored, but they do not form the primary interest. Students going on to study mathematics in graduate school should consider programs in either pure or applied mathematics. Suggested courses include Math 213, *Real Analysis*, Math 216, *Complex Analysis*, Math 225-226, *Modern Algebra*, and Math 228-229, *Topology*. A cluster should be chosen which includes at least one course which uses mathematics heavily in order to insure that some of the uses of mathematics are illustrated.

Applied mathematics is the study of mathematics for its applications to the natural or social sciences. The key to applied mathematics is the modeling of natural or social phenomena by mathematical techniques including differential equations, linear systems, and stochastic processes. Suggested courses include Math 158, *Numerical Analysis*, Math 164, *Mathematical Models*, Math 213, *Real Analysis*, Math 216, *Complex Analysis*, Math 217-218, *Mathematical Statistics*, and Math 244, *Differential Equations*. The cluster should be a substantial sequence of courses in a mathematically oriented science.

Actuarial science is the study of finance and insurance. Study in this field requires a firm grounding in mathematics and statistics and an understanding of economics and business management. Suggested courses include Math 164, *Mathematical Models*, Math 213, *Real Analysis*, Math 217-218, *Mathematical Statistics*, Math 244, *Differential Equations*, and a cluster in economics or business management.

MATHEMATICS/EDUCATION

The mathematics/education program is designed for students preparing to teach secondary school. This program consists of a major in mathematics containing courses relevant to students' future needs in teaching and a concentration in education. The education concentration will lead to a certification in Massachusetts (interstate certification approval is pending). See the Education Department as early as possible for further details. There is a shortage of high school mathematics teachers and so there are scholarships, loans, and other inducements available to help alleviate this shortage.

<i>REQUIREMENTS:</i>	<i>Credits</i>
Math 102, 114	2
Math 120-121 or Math 124-125 (Calculus)	2
Math 130	1
Math 119 or 133	1
Math 104	1
Math 217	1
Computer Science 101	1
Six education courses	6
TOTAL	15 credits

DECLARING A MAJOR AND CHOOSING A DEPARTMENTAL ADVISER

A student must declare his or her major no later than the end of the second semester, sophomore year. The registrar's office has "declaration of major" forms. At this time the student should choose a departmental adviser who will discuss majoring in computer science or one of the mathematics majors and who may sign the form. A departmental form is also to be filled out at this time and kept in the departmental office. The adviser may be any full-time, nonvisiting member of the department.

HONORS PROGRAM

Majors in computer science or mathematics who maintain at least 3.2 average in courses required for their major may apply for departmental honors program. Application in writing must be received by the end of the junior year by a prospective honors adviser or by the chair of the department. Honors may be achieved in one of two ways:

- (1) A unified four-course sequence as a senior (some parts of which may consist of readings courses), followed by a comprehensive examination.
- (2) An honors thesis to be presented at an oral defense or at a departmental seminar. This thesis may be an independent or joint research project, or an

analytic dissertation. Supporting coursework may be required. The student registers for Computer Science or Math 299.8 for course credit for an honors thesis.

Upon satisfactory completion of the program the department may recommend graduation with honors, high honors, or highest honors.

GRADUATE PROGRAM

The department offers courses leading to the degrees of master of arts and doctor of philosophy in mathematics. The requirement for the M.A.* are: (1) ten full courses at least eight of which must be on the 300 level. These courses usually include one or two full courses of Math 330—the writing of the master's thesis. They may include seminars and reading courses. (2) that the basic courses, Math 316, 318, and 325 must be included. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question. (3) a master's thesis. (4) an oral examination.

A student working toward a Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion of the Ph.D. preliminary examination.

The requirements for Ph.D.* follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisers by November of their second year. Students entering with a master's degree should discuss the examination with a departmental adviser immediately. Failure to take this examination at the appropriate time may result in the department's not recommending a student for continued support. Scholarships, graduate instructorships, and new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision concerning this requirement will depend heavily upon the recommendation of the candidate's adviser.

*All candidates for the M.A. and Ph.D. degrees in mathematics are required to serve as teaching assistants as part of the work for their degree.

COMPUTER SCIENCE COURSES

CS 99 COMPUTERS AND HUMAN REASON/Lecture, Laboratory

The goal of the course is to gain an understanding of computers and the pervasive role they now play in society. It studies how computers work and what makes them so powerful. Computers are considered from the perspectives of history, sociology, psychology, philosophy, science and technology. We shall survey some of the work in artificial intelligence, the role of computers in cognitive science, and the nature of computer models and theories. Two class meetings and one laboratory meeting per week. The laboratory provides "hands-on" experience and includes programming in Lisp, the language of choice for artificial intelligence. Demonstration programs are available for experimentation and modification. No prerequisites; open to freshmen. Prior knowledge of computers or programming experience will not be assumed.

Mr. Green

Offered every other year

CS 101 COMPUTER PROGRAMMING I/Lecture, Laboratory

An introduction to computer programming using the language Pascal, a powerful general purpose, structured language. Development of algorithms and top-down design of programs. Topics through arrays, procedures and functions, and text files.

Applications to business, data manipulation of both numerical and nonnumerical types, and simulations involving games. Satisfies the *formal analysis* requirement. No prerequisites beyond high school algebra. This course is prerequisite to all higher-numbered computer science courses.

Mr. Green, Mr. Cline, Mr. Chou, Mr. Kilmoyer

Offered every semester

CS 102 COMPUTER PROGRAMMING II/Lecture, Laboratory

A continuation of CS 101 covering topics such as string manipulation; files of records and their processing; dynamic data structures such as stacks, list, and queues; recursion; introduction to algorithm efficiency; internal searching and sorting. Projects involve larger programs that apply the above techniques primarily to nonnumerical problems. Prerequisite: CS 101.

Mr. Chou, Mr. Green, Mr. Joyce, Mr. Kilmoyer

Offered every semester

CS 115 COMPUTER SIMULATION LABORATORY

Refer to course description under Physics 115.

Mr. Gould

Offered every year

CS 117 MICROCOMPUTER LABORATORY

Refer to course description under Physics 117.

Mr. Andersen

Offered every other year

CS 120 through 129 SHORT COURSES IN COMPUTER LANGUAGES/Lecture, Laboratory

These are short, mid-semester courses for 1/4 or 1/2 credit each. Each one introduces a new programming language to students who know at least one high-level language. The prerequisites are a semester college-level programming course and familiarity with DCL and EDT on the VAX. These courses are offered credit/no record and do not fulfill any requirements of the computer science major. One or two of these courses will be offered each year.

CS 140 ASSEMBLY LANGUAGE (VAX-11)/Lecture

Fundamentals of assembly language programming in the VAX/MACRO language, a short discussion of VAX organization and architecture, data representation, the instruction set, addressing modes, machine code, macros, stacks, subroutines, linking MACRO procedures and higher-level language procedures, input and output, reentrancy, and recursion. As time permits, further topics relating to the design of an assembler and a macro processor, discussion of the linker, record management, and service procedures will be discussed. Prerequisite: CS 102.

Mr. Cline, Mr. Joyce

Offered every year

CS 145 INTRODUCTION TO COMPUTER ORGANIZATION/Lecture

A study of computer organization and logic design, this course is intended for students with a strong interest in computers and computing systems. It is especially recommended for students going on to graduate school in computer science. Topics include the structure and organization of the major components of computers, and the mechanics of information transfer and control within the system. The functional, logical level is emphasized rather than the circuit details of hardware. Prerequisite: CS 102.

Mr. Chou

Offered every other year

CS 160 DATA STRUCTURES AND ALGORITHM ANALYSIS/Lecture

Data structures such as sets, lists, trees, and graphs are discussed along with the algorithms to implement them. Students learn to compare structures and to

implement them. Students learn to compare structures and to analyze algorithms for their efficiency. Topics include dynamic list processing, search/sort/merge methods, memory management, hash coding, and introduction to complexity of algorithms.

Prerequisites: CS 102 and Math 114.

Mr. Chou

Offered every year

CS 170 COMPARATIVE ANALYSIS OF PROGRAMMING LANGUAGES/Lecture

Deals with the issues of design and implementation of programming languages from syntactic and semantic points of view. The emphasis will be on the features that programming languages have in common which are necessary in order to have a good programming language. Topics will include representation of rules of syntax using context free grammars, parsing, semantics constructs, compiler organization, control structures, implementation of procedures and parameters, and recursion. Attention will be given to both compiled and interpreted languages. A typical term project may be to write an interpreter or compiler for the actual implementation of some language. Prerequisite: CS 102.

Mr. Kilmoyer

Offered every other year

CS 201 PROSEMINAR IN COMPUTER SCIENCE

For the presentation of topics in computer science by and for senior undergraduates. These presentations acquaint students with diverse subjects, introduce them to researching known topics, and give them practice in presenting material in front of their peers. Faculty members will present surveys of their research areas. Possible topics include NP-complete problems, artificial intelligence, automatic deduction, theory of computation, computational complexity, expert systems, and parallel processing. This is a capstone course in computer science.

Mr. Chou, Mr. Green

Mr. Joyce, Mr. Kilmoyer

Offered every spring

CS 210 ARTIFICIAL INTELLIGENCE/Lecture

Focuses on the fundamental ideas of artificial intelligence and on programming in Lisp. Topics included will be problem representation through explicit models, notion of problem state, state variable, feedback and control, network searching, analogy and pattern recognition, forward and backward deduction using rule based systems, and frames and knowledge representation. Students will implement these ideas through computer models. Language instruction will be provided in Lisp or Prolog, although no prior knowledge of these languages will be assumed. Open to all students who have taken at least one semester of programming.

Mr. Kilmoyer, Mr. Green

Offered every year

CS 211 TOPICS IN ARTIFICIAL INTELLIGENCE

Follows CS 210, *Artificial Intelligence*, as a prerequisite foundation course to study selected topics in more depth. Possible topics include rule based expert systems, knowledge acquisition and representation, parsing, natural language processing, transition networks, and semantic networks. Students will write programs in Lisp (or Prolog) based upon the algorithms and data structures used to study the selected topics.

Mr. Kilmoyer, Mr. Joyce

Offered every other year

CS 215 OPERATING SYSTEMS/Lecture

This advanced course studies the structure, performance, and design of operating systems. Topics include concurrency, deadlocks, scheduling, and memory management. The abstract viewpoint is stressed rather than a specific operating system. Students design sections of operating systems. Prerequisite: CS 160.

Mr. Green

Offered every other year

CS 220 DATABASE MANAGEMENT AND SYSTEMS DESIGN/Lecture An advanced course on the realities of database technology emphasizes the goals of database management: performance, data integrity, future compatibility, and versatility. The concept of data model is examined and a specific database is discussed. The course concentrates on database design and specification. Prerequisite: CS 160.
Mr. Cline

Offered every other year

CS 230 AUTOMATA, COMPUTABILITY, AND FORMAL LANGUAGES/Lecture The abstract ideas that are fundamental to computer science—"machine," "computation," and "language"—are studied in this course. Primarily theoretical, this course also has applications to computer programming languages, to linguistics, and compiler writing. Topics include finite state machines, regular grammars and expressions, pushdown automata, context-free grammars and languages, precedence grammars, Turing machines, Church's thesis and computable functions, unsolvable problems, introduction to computational complexity, and intractable problems. Prerequisite: CS 102 and Math 114.
Mr. Morris, Mr. Green, Mr. Chou

Offered every year

CS 231 PARSING AND COMPILERS/Lecture

This course uses automata and context-free grammars to study the standard algorithms employed in the front ends of compilers. Topics include lexical analyzers and generators; LL1, LR, LALR grammars and parsers (including recursive descent); error recovery; symbol tables; type checking; run-time environment; and intermediate code generation. Students are required to design and implement a small compiler. Prerequisite: CS 230
Mr. Morris, Mr. Green

Offered every other year

CS 250 SOFTWARE DESIGN AND DEVELOPMENT/Seminar

Software development is covered from both theoretical and practical viewpoints. Students learn how to analyze a user's needs and to draw up specifications for software. Topics include modularity, coupling, cohesion, factoring, transformational and transactional structures, and testing strategies. Working in teams, students gain practical experience developing software to solve concrete problems. Prerequisite: CS 160.
Mr. Kennison

Offered every other year

MATHEMATICS COURSES

MATH 100 PRECALCULUS/Lecture

Intended for students going on to calculus. Topics include basic set theory; functions and relations; geometric significance of real relations and functions with applications to rational and elementary transcendental functions; finding zeroes of functions; and solutions of inequalities. Students should have a solid grasp of elementary algebra.
Mr. Abdulali, Mr. Rudolph
Mr. Kennison, Ms. Sternberg

Offered every semester

MATH 102 GEOMETRY/Lecture

Begins with a discussion of Euclidean geometry and quickly proceeds to modern related topics. Such topics may include Hilbert's axioms of geometry, the parallel postulate, hyperbolic (Lobachevskian) geometry, elliptic geometry, projective geometry, models of such geometries and philosophical implications of their existence, finite geometries, Klein's Erlanger Programme, and automorphism groups of geometries. One of the aims of this course is to show the beauty of the

deductive approach in mathematics. Prerequisites: High school geometry and the equivalent of Math 100.

Mr. Kennison, Mr. Joyce

Offered every other year

MATH 104 THEORY OF NUMBERS/Lecture

An introduction to number theory, this course also aims to train students to understand mathematical reasoning and learn to write proofs. Topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, congruencies, Fermat's theorem, and Euler's theorem (and some applications of the latter, e.g., magic squares). Prerequisite: equivalent of Math 100.

Ms. Vaskas

Offered every other year

MATH 105 HISTORY OF MATHEMATICS/Lecture, Discussion

Explores major themes — calculation, number, geometry, algebra, infinity — and their historical development in various civilizations ranging from the antiquity of Babylonia and Egypt, through classic Greece, the Middle and Far East, and on to modern Europe. Analyzes the tension between applications of mathematics and its increasing tendency toward formalism. Presentations and discussions predominate in class.

Mr. Joyce

Offered every other year

MATH 107 LOGIC/Lecture

The propositional calculus and the first-order predicate calculus, which consist of a symbolic language and a method of proving statements made in that language, are constructed and discussed predominantly in relation to mathematical questions such as consistency and completeness.

Mr. Joyce, Mr. Kennison

Offered every other year

MATH 114 DISCRETE MATHEMATICS/Lecture

Studies mathematical structures which naturally arise in computer science. Topics include elementary logic and set theory, equivalence relations, functions, counting arguments, asymptotic complexity, inductively defined sets, recursion, graphs and trees, Boolean algebra and combinational circuits, finite state automata, and diagonalization and countability arguments. Proofs and problem solving are emphasized. Prerequisite: CS 101. Corequisite: CS 102 or Calculus.

Mr. Morris, Mr. Chou

Offered every year

MATH 119 APPLIED LINEAR ALGEBRA/Lecture

A study of the fundamental results and computational techniques of matrix algebra and vector spaces. Topics covered may include systems of linear equations, Gaussian elimination, matrix algebra, determinants, vector spaces, and linear transformations and applications, including the simplex method of linear programming. Also, the numerical analysis relevant to the fundamental computer algorithms related to this subject is discussed. Prerequisite: Math 100 or an appropriate score on the mathematics placement test.

Ms. Vaskas

Offered every year

MATH 120 AND 121 INTRODUCTION TO CALCULUS I AND II/Lecture, Discussion

Topics in part I include functions, sequences and limits, series, continuity, differentiation, mean value theory, and various applications. Topics in Part II include motivation for, and definition of, Riemann sums and integrals; techniques and application of integration; improper integrals; and introduction to calculus of several variables. In this course, rigorous statements and intuitive notions are

distinguished carefully. Calculus is essential for majors in biology, chemistry, computer science, mathematics, physics, and ETS. Math 120 fulfills the *formal analysis* requirement. Prerequisite: Math 100 or an appropriate score on the mathematics placement test.

Mr. Kennison, Mr. Abdulali

Ms. Vaskas, Ms. Sternberg

Offered every semester

MATH 124 AND 125 HONORS CALCULUS I AND II/Lecture, Discussion

This course is for mathematics majors and others who are interested in a deeper and more rigorous study of the topics considered in Math 120 and Math 121 and is a requirement for all Pure Mathematics majors. Prerequisites: Math 100 or an appropriate score on the mathematics placement test.

Mr. Morris, Mr. Rudolph

Offered every year

MATH 130 AND 131 MULTIVARIATE CALCULUS I AND II/Lecture

Deals with functions of several variables. Topics covered include preliminary material on matrix algebra, differential and integral calculus in several variables, line and surface integration, and Stokes' theorem. Prerequisite: Math 121 or 125.

Mr. Cline, Mr. Abdulali

Offered every year

MATH 133 LINEAR ALGEBRA/Lecture

This course is required for Pure and Applied Mathematics majors and continues the study of linear algebra begun in Math 130. Topics include linear transformations, minimum and characteristic polynomials, eigenvectors and eigenvalues, canonical forms, bilinear and hermitian forms, and associated symmetries. Prerequisite: Math 130.

Mr. Rudolph

Offered every other year

MATH 147 PROBABILITY THEORY AND ITS APPLICATIONS/Lecture

The aim is to familiarize students with the probabilistic way of thinking, modeling, and problem solving, which underlies many disciplines such as social sciences, physical sciences, and computer science. Different models of random phenomena are discussed. It includes various probability distributions, Markov Chains, and stochastic processes. Rather than focusing on methods and formulae, this course emphasizes the intuition and basic ideas. Applications are made to statistical estimation, Queuing theory, probabilistic analysis of computer performance and algorithms. Prerequisite: Math 121.

Mr. Chou, Mr. Kennison

Offered every year

MATH 158 ELEMENTARY NUMERICAL ANALYSIS/Lecture

Addresses the needs of students in mathematics and the sciences who are planning to do scientific computing. The goal of the course is to teach students how to set up reasonable computational algorithms and then to use the algorithms to work on actual projects. Topics covered include approximation theory, error analysis, numerical differentiation and integration, and solution of ordinary differential equations and linear systems. Prerequisite: Math 121.

Ms. Sternberg, Mr. Chou

Offered every year

MATH 164 MATHEMATICAL MODELS/Lecture

Mathematics is widely used (and misused) to model phenomena of all sorts. Mathematical models can be descriptive or predictive, deterministic or nondeterministic, dynamic or static, stable or chaotic. Students in this course will construct models and critique each other's constructions as well as examples from the literature. Special attention will be paid to issues of measurement, robustness,

and sensitive dependence on initial conditions. Prerequisites: one year of calculus, or one year of programming plus one semester of calculus.

Mr. Rudolph, Mr. Kennison, Mr. Joyce

Offered every other year

MATH 201 PROSEMINAR IN MATHEMATICS

For the presentation of topics in mathematics by and for senior undergraduates. These presentations acquaint students with diverse subjects, introduce them to researching known topics, and give them practice in presenting material in front of their peers. Faculty members will present surveys of their research areas. Possible topics include category theory, knot theory, automorphic forms, topos theory, low-dimensional topology, class field theory, group representation theory, and dynamical systems. This is a capstone course in mathematics.

Mr. Cline, Mr. Kennison

Mr. Morris, Mr. Rudolph, Ms. Sternberg

Offered every spring

MATH 213 AND 214 MODERN ANALYSIS I AND II/Lecture

Ideas first encountered in calculus are studied using topological and metric methods. Problems which led to the development of calculus are then studied from this point of view. Topics covered include convergence, differentiation and integration, trigonometric and Fourier series, periodic distributions, Hilbert spaces, L2-analysis and applications to one-dimensional heat, wave and Laplace equations of mathematical physics. Prerequisite: Math 131 or permission of instructor.

Mr. Cline

Offered every other year

MATH 216 INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE/Lecture

An introductory course designed for undergraduate science majors as well as mathematics majors. Cauchy's theorem, power series, Laurent series, the residue theorem, harmonic functions, and physical applications, such as problems in two dimensional flow, are among the topics to be covered. An introduction to Riemann surfaces if time permits. Prerequisite: Math 131 or permission of instructor.

Mr. Cline

Offered every other year

MATH 217 AND 218 MATHEMATICAL STATISTICS I AND II/Lecture

Designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems are stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination. Corequisite: Math 130.

Mr. Kennison, Mr. Kilmoyer

Offered every year

MATH 225 AND 226 MODERN ALGEBRA I AND II/Lecture

The theory of groups, rings, fields, integral domains, canonical forms, and related topics. The treatment is axiomatic with emphasis on the construction of the proofs of certain theorems. Prerequisite: Math 119 or 133.

Mr. Kilmoyer

Offered every other year

MATH 228 AND 229 TOPOLOGY I AND II/Lecture

Part I: Sets of real numbers. Topology of the line and the plane; the Jordan Curve Theorem. Classification of surfaces. Part II: Topology of 3-dimensional space. Curves on surfaces, curves and surfaces in space. An introduction to combinatorial

knot theory. Prerequisite: one year of multivariate calculus, or one year of honors calculus plus multivariate calculus as a corequisite.

Mr. Rudolph

Offered every other year

MATH 244 DIFFERENTIAL EQUATIONS/Lecture

Most of the ordinary differential equations which occur in mathematical models of physical, chemical, and biological phenomena cannot be solved analytically. Numerical integrations do not lead to a desired result without qualitative analysis of the behavior of the equation's solutions. The goal of this course is to study the flow of scalar and planar ordinary differential equations. Stability and bifurcation are discussed. Prerequisite: Math 121 or 125.

Ms. Sternberg

Offered every year

GRADUATE COURSES IN MATHEMATICS

For more information on the graduate courses listed below, please contact the department.

300 SET THEORY

316 FUNCTIONS OF A COMPLEX VARIABLE

318 FUNCTIONS OF A REAL VARIABLE

321 ALGEBRAIC TOPOLOGY

325 ADVANCED MODERN ALGEBRA

326 SELECTED TOPICS IN COMPLEX ANALYSIS

327 FUNCTIONAL ANALYSIS

330 MASTER'S THESIS

335 SELECTED TOPICS IN ALGEBRA

341 DIFFERENTIAL EQUATIONS

358 CATEGORY THEORY

376 REPRESENTATION THEORY OF FINITE GROUPS

381 SEMINAR IN COMPLEX VARIABLES

382 SEMINAR IN ABSTRACT ANALYSIS

Music

See Department of Visual and Performing Arts.

Peace Studies

PROGRAM FACULTY

Glen Gersmehl, MA, *program coordinator*: national security policy, arms control and peacemaking strategies, interest group activity

Joseph H. deRivera, Ph.D.: emotions, social psychology and the prevention of nuclear war

Cynthia Enloe, Ph.D.: women and politics, militarization, comparative politics

Beverly Grier, Ph.D.: comparative politics, African politics

James Hannon, Ph.D. candidate: social movements, religion, political socialization

Christoph Hohenemser, Ph.D.: arms control and disarmament, nuclear power, environmental policy

Douglas Little, Ph.D.: U.S. diplomatic history, America since 1900, modern Latin America and the middle east

Ortwin Renn, Ph.D.: decision analysis, conflict resolution, risk analysis

Robert Rosh, Ph.D.: international relations, militarization and the Third World

Robert Ross, Ph.D.: urban political economy, political sociology, social movements

Ann Seidman, Ph.D.: international division of labor, South Africa
 Zenovia Sochor, Ph.D.: Soviet Union, comparative politics
 Barbara P. Thomas, Ph.D.: rural organization, women and development, peasant behavior
 Nicholas S. Thompson, Ph.D.: relationship between competition and cooperation in biological systems
 James Wertsch, Ph.D.: mind in socio-cultural context

AFFILIATED FACULTY

Sandra Azar, Ph.D.: family process, domestic violence
 John C. Blydenburgh, Ph.D.: elections, polling, national politics
 Everett Fox, Ph.D.: Hebrew Bible, classical Jewish texts, holocaust studies
 Robert Goble, Ph.D.: arms control, properties of weapons systems, ethical issues in hazard management
 George Lane, M.A.: arms control, Middle East history and politics
 Roger Kasperson, Ph.D.: environmental policy, decisionmaking
 Sharon Krefetz, Ph.D.: urban politics, women and politics, housing policy
 Maren Stange, Ph.D.: American studies, communications, cultural studies
 Elizabeth Stanko, Ph.D.: victimization of women, police in the U.S. and Britain, qualitative methodology
 Shelly Tennenbaum, Ph.D.: race and ethnicity, holocaust studies, social stratification
 Theodore H. Von Laue, Ph.D. (emeritus): global perspectives in history

PEACE STUDIES AT CLARK

The Peace Studies Program is concerned with analyzing and transforming individual behavior, national policy, and human institutions to promote peace and justice in the world. The topics studied include the relationship between arms production and world poverty; ways of coping with violence in social relations; and current efforts to end the arms race, resolve international conflict, protect the environment, and guarantee human rights.

Students with course work in peace studies have gone on to careers and graduate study in such fields as public policy, international development, environment and ecology, international relations, education, psychology, and the sciences.

Peace studies is a relatively new field and a rapidly expanding one. Forty-six percent of all institutions of higher learning in the U.S. offer at least one course, up from 14 percent in 1979. Majors, minors, and concentrations in Peace Studies were offered at more than 230 American universities and colleges in 1986. Clark has offered peace studies courses for more than a decade, and the interdisciplinary Peace Studies Committee is exploring a formal academic concentration in peace studies at Clark.

Clark's Peace Studies program offers:

- 1) a series of forums, informal luncheon discussions, and symposia on peace and international issues;
- 2) assistance regarding peace studies courses and their integration into the student's academic program at Clark, information about internships and graduate programs, and a job bank and counseling about careers;
- 3) a resource center of books and periodicals on peace and international issues; a computer link to more than 60 data banks, conferences, and bulletin boards; and assistance in identifying resources for student papers and research.

COURSES

111 SURVEY OF PEACE STUDIES

Faculty from ETS, government, international development, psychology, and sociology participate in this interdisciplinary effort to analyze the nature of conflict and the means to create a more peaceful world. Particular attention is paid to the relationship between the personal, societal, and international dimensions of conflict. Topics studied include the connection between arms production and world poverty, ways of coping with violence in social relations, and current efforts to control nuclear weapons, resolve international conflict, protect the environment, and guarantee human rights.

Staff

Offered every year

285 SPECIAL TOPICS IN PEACE STUDIES

The content of this course varies from year to year. Topics include theories and techniques of conflict resolution; strategies and effectiveness of various interest groups working for peace; non-violent resistance and other approaches to peacemaking; and the connection between the interpersonal, intergroup, cultural, and international dimensions of conflict and peacemaking.

Mr. Gersmehl

Offered every other year

Philosophy

DEPARTMENT FACULTY

Patrick G. Derr, Ph.D., *chair*: philosophy of science, medical ethics, history of modern European philosophy, metaphysics

Judith W. DeCew, Ph.D.: philosophy of law, social and political philosophy, ethics, modal logic

Gary E. Overvold, Ph.D.: contemporary continental philosophy, interdisciplinary studies, epistemology, philosophy of social science

Michael Pakaluk, Ph.D.: ancient philosophy, philosophy of psychology, Hume, analytic philosophy

Christina Sommers, Ph.D.: history of ethics, history of philosophy, contemporary moral theory, philosophy of literature

Walter E. Wright, Ph.D.: nineteenth-century philosophy, ethics, philosophy of religion, German idealism

ADJUNCT FACULTY

Bernard Kaplan, Ph.D., Professor of Psychology

AFFILIATE FACULTY

Barbara Carlson, C.Phil.: logic

Stephen Gardner, Ph.D.: Hegel, continental philosophy

Edward Petry, Ph.D.: ethics, logic

Sydney Thomas, Ph.D.: epistemology, aesthetics, feminist philosophy

UNDERGRADUATE PROGRAM

The Philosophy Department offers both a traditional major program and a variety of elective courses, which can enhance the student's critical skills and intellectual breadth. Some of these can be used to fulfill Program in Liberal Studies requirements. Others are special electives designed to complement the studies of

students in certain other major programs or with particular preprofessional interests (for example, 133, 169, 241).

Students who want to concentrate in philosophy are encouraged to take an introductory course (102 is recommended), two courses in the history of philosophy (141 and 143 are recommended), and at least two advanced 200-level courses. The advanced courses should be selected to complement the student's academic major and career interests.

For students who are motivated to undertake significant independent research, the department offers a *Senior Thesis Program* (299) and a variety of *Advanced Topics in Philosophy* courses (297). Students interested in these possibilities should consult with individual members of the philosophy faculty.

Honors, high honors, or highest honors in philosophy may be conferred at graduation upon majors who, in addition to having compiled a superior record in their major studies, successfully complete a senior thesis and an oral thesis defense.

Students who would like more information about the courses, programs, and faculty of the Philosophy Department are invited to pick up a copy of the handbook, *A Student's Guide to Philosophy at Clark*, which is available in the department office. The Philosophy Department is part of the Alice Coonley Higgins School of Humanities.

MAJOR REQUIREMENTS

A major in philosophy includes course requirements in philosophy and related fields. The requirements are designed to ensure exposure to the major systematic fields within philosophy; to ensure familiarity with advanced analytic and logical methods; to acquaint the student with the history of the discipline; and to provide faculty-student contacts within the context of advanced seminars and individual projects. The requirements are:

1. Philosophy Courses

Total of at least eight courses, including:

- a. Logic: at least one of 110, 160
- b. History of Philosophy: at least two of 141, 142, 143, 145
- c. Epistemology: at least one of 240, 241, 287
- d. Metaphysics: at least one of 234, 235, 263
- e. Ethics: at least one of 220, 221, 228, 270
- f. Advanced elective: at least one of 140 - 299
- g. Capstone seminar: 298

2. Cluster of Related Courses

A cluster of related courses is defined as six courses, taken in one or more departments or programs, which form a coherent intellectual group. At least four of the six courses must be at an intermediate or advanced level. Clusters can be chosen from among the following areas or departments:

Biology, Chemistry, Physics, or E.T.S.
English or Comparative Literature
Foreign Languages and Literatures
Geography, Government, or International Development
History, Ancient Studies, Judaic Studies, or Classics
Mathematics or Computer Science
Management or Education
Psychology, Sociology, or Economics
Visual and Performing Arts
Women's Studies or American Studies

THE SOCIETY FOR PHILOSOPHY AND PUBLIC AFFAIRS

The Clark University Department of Philosophy houses the New England Chapter of the Society for Philosophy and Public Affairs (S.P.P.A.). This is a national organization that works to promote the application of philosophical methods and insights to the consideration of such public issues as medical ethics, criminal justice, civil disobedience, pornography and censorship, economic justice, and affirmative action. The society sponsors frequent colloquia, symposia, and conferences on public policy issues. Inquiries concerning its activities may be directed to the department.

IDEALISTIC STUDIES

The international philosophical journal, *Idealistic Studies*, is edited by Walter Wright with the assistance of the other faculty of the Department of Philosophy. Founded by Robert N. Beck, *Idealistic Studies* has become one of the world's leading professional journals for the discussion and analysis of themes and problems arising within the context of the idealist tradition in philosophy.

THE PHILOSOPHY CLUB

Students interested in philosophy and philosophical dialogue, whether majors in the department or not, are invited to join the Philosophy Club. This student-led organization meets regularly with invited speakers and faculty to discuss topics chosen by its members. Information on the club is available from the department.

COURSE NUMBERS AND LEVELS

- 100-119 Introductory courses for all students; no prerequisites.
- 130-139 Courses in applied ethics for all students; no prerequisites.
- 140-149 Survey courses in the history of philosophy (at least two are required for the major); usually no prerequisites.
- 150-199 Intermediate courses in various areas of philosophy; usually one prerequisite.
- 200-219 Advanced courses in various systematic and historical areas of philosophy; usually two prerequisites.
- 220-229 Advanced courses in systematic ethics; two prerequisites.
- 230-239 Advanced courses in systematic metaphysics; two prerequisites.
- 240-249 Advanced courses in systematic epistemology; two prerequisites.
- 250-289 Seminars on individual philosophers or philosophical issues; two or more prerequisites.
- 290-299 Advanced topics, individual research, senior thesis, capstone seminar, and other small, intensive courses in philosophy; usually four to six prerequisites.

INTRODUCTORY COURSES

102 INTRODUCTION TO PHILOSOPHY/Lecture, Discussion

An introduction to philosophy through the study of typical problems drawn from its main branches. Topics often include God's existence, the nature of morality, scepticism, freedom vs. determinism, immortality, and political theory. Readings are taken from both classic and contemporary sources.

Mr. Derr, Mr. Overvold, Ms. DeCew,
Mr. Pakaluk, Mr. Wright

Offered every semester

103 ANALYTIC REASONING/Lecture, Discussion

Major emphasis is given to the analysis of argumentative essays (drawn from newspapers, philosophical works, legal journals, and popular magazines) on such topics as affirmative action, the problem of evil, the nature of law, scientific method, etc. We analyze the material with an eye to its cogency and persuasiveness, identifying its premises and conclusions, assumptions and implications. The course helps students to read, write, and think in a more analytical and critical manner.

Mr. Overvold, Ms. Carlson

Offered every semester

105 PERSONAL VALUES/Lecture, Discussion

A philosophical study of some fundamental human problems: Is there a God? Why should we be moral? Should we permit or choose abortion, mercy killing, or suicide? Do communities have a right to ban pornography? What moral duties do children have toward their parents? Can civil disobedience, war, or terrorism be morally justified? What moral issues are at stake in truthfulness, sexual integrity, and love? The students learn some important moral theories and the methods used to reason philosophically about moral questions.

Ms. Sommers, Mr. Petry,

Offered every semester

Ms. DeCew, Mr. Gardner, Ms. Thomas

110 INTRODUCTION TO LOGIC/Lecture, Discussion

An introduction to logic as both a practical skill and a branch of philosophy. The student is introduced to the principles, methods, and philosophical foundations of logical reasoning.

Mr. Gardner

Offered every semester

INTERMEDIATE COURSES

130 MEDICAL ETHICS/Lecture, Discussion

An investigation of contemporary issues in medical ethics: informed consent, definitions of death, treatment termination and euthanasia, abortion, confidentiality and truth telling, genetic testing and counseling, research on human subjects, the allocation of scarce medical resources, in-vitro fertilization, surrogate parenting, and national health policy. Not open to freshmen.

Mr. Derr

Offered every year

132 SOCIAL AND POLITICAL ETHICS/Lecture, Discussion

Typical issues include: What is affirmative action, and can it be morally justified? Should governments censor pornography? Is capital punishment acceptable? Can war be justified? Should morality be legislated? Should anything else be legislated?

Ms. DeCew, Mr. Gardner

Offered every year

133 BUSINESS ETHICS/Lecture, Discussion

Investigates moral problems in and about the world of business: Do corporations have moral responsibilities, or is their only social responsibility to increase profits? Is capitalism morally justifiable, or is some other politico-economic system morally preferable? Also discusses ethical issues in advertising, affirmative action, and business's responsibilities toward the environment.

Mr. Petry

Offered every year

136 LEGAL ETHICS/Lecture, Discussion

Considers a variety of ethical problems that arise within and about the legal system: the relation between law and morality, the social responsibility of lawyers and judges, the justifiability of judicial activism, the morality of the insanity defense, and issues in professional ethics (such as lawyer-client confidentiality).

Ms. DeCew

Offered every other year

139 WOMEN AND PHILOSOPHY/Lecture, Discussion

Attention is given to the prevalent images of women in the history of Western philosophical thinking, including glimmerings of feminism in Mill, Wollstonecraft, and others. The course also looks at issues in contemporary philosophy that particularly affect women, including debates about sexual differences, the meaning of liberation, and the status of feminism as a social ideal.

Ms. Thomas

Offered every other year

141 HISTORY OF ANCIENT PHILOSOPHY/Lecture, Discussion

Examines the origins of Western thought in early Greek philosophy, through the writings of the Pre-Socratics, Plato, and Aristotle. Readings include the fragments of the Pre-Socratic philosophers; the *Meno*, *Phaedo*, *Protagoras*, *Republic*, and *Parmenides* of Plato; and selections from the *Organon*, *De Anima*, *Physics*, and *Metaphysics* of Aristotle.

Mr. Pakaluk

Offered every year

142 HISTORY OF MEDIEVAL PHILOSOPHY/Lecture, Discussion

A survey of medieval philosophy with special attention to some of the philosophical texts that were pivotal to the later development of Western philosophy and culture. These include Augustine's *Confessions*, Boethius' *Consolation of Philosophy*, Aquinas' *Summa Theologica*, and Maimonides' *Guide for the Perplexed*.

Mr. Pakaluk

Offered every other year

143 HISTORY OF MODERN EUROPEAN PHILOSOPHY/Lecture, Discussion

The two great movements in modern Western thought—continental rationalism and British empiricism—are examined from their common origin in Descartes, through their later articulations by Locke, Berkeley, Spinoza, Leibniz, and Hume, to their eventual transformation by Immanuel Kant. Particular emphasis is given to the interaction of philosophy and science and to the powerful influence exerted by the modern European thinkers upon contemporary thought.

Mr. Derr

Offered every year

145 HISTORY OF CONTEMPORARY PHILOSOPHY/Lecture, Discussion

A survey of the major trends in recent Anglo-American and continental philosophy: pragmatism, logical positivism, ordinary language philosophy, hermeneutics, critical theory, and phenomenology. Each alternative is considered as a coherent perspective on experience, with special attention given to its style and methodology. Prerequisite: one course in philosophy.

Mr. Overvold

Offered every year

148 HISTORY OF AMERICAN PHILOSOPHY

This is a survey of important philosophical ideas in America with emphasis upon their relationship to the American experience. Prerequisite: one full course in philosophy.

Ms. Thomas

Offered periodically

150 PHILOSOPHY OF RELIGION/Lecture, Discussion

Considers the nature of religion as revealed by the examination of representative forms of religious experience. Emphasis is given to the effect of contemporary knowledge on our understanding of religion and religious experience. Prerequisite: one course in philosophy.

Mr. Wright, Mr. Pakaluk

Offered every year

154 RECENT EUROPEAN PHILOSOPHY/Lecture, Discussion

Introduces four contemporary European philosophical movements: hermeneutics, deconstructionism, critical theory, and structuralism. Prerequisite: one course in philosophy or permission of instructor.

Mr. Overvold, Mr. Gardner

Offered every other year

156 PHILOSOPHY IN LITERATURE/Lecture, Discussion

Considers philosophical issues and problems presented in selected literary texts. Topics vary with the texts, but typical issues are the nature of the self, the purposes of human life, and the nature of the human community. Prerequisite: one course in philosophy.

Ms. Sommers

Offered periodically

160 SYMBOLIC LOGIC/Lecture, Discussion

Emphasis is on formal principles of deductive rigor with some consideration of the philosophical implications of logic. Topics include: sentential calculus, predicate calculus, Tarski's definition of truth, selected metatheorems, and Henkin's completeness proof for the first order predicate calculus.

Mr. Wright, Ms. DeCew

Offered every year

165 EXISTENTIALISM/Lecture, Discussion

Considers the major nineteenth- and twentieth-century existentialists, with special attention given to the questions of personal responsibility and authenticity, the meaning of death, and the death (or existence) of God. Prerequisite: one course in philosophy.

Mr. Wright, Ms. Sommers

Offered every other year

169 AESTHETICS/Lecture, Discussion

Why did Plato condemn artists and their work? Can art really be as neatly categorized as Aristotle claims? Is art "experience," "emotion," or something else altogether—as suggested by Dewey, Croce, and Santayana? Among the theories of art that we consider are those of Arnheim, Sartre, Langer, Fischer, Collingwood, and Nietzsche. Prerequisite: one course in philosophy.

Ms. Thomas

Offered every other year

ADVANCED COURSES**203 SURSEMINAR: TEACHING PHILOSOPHY/Seminar**

Registration is limited to those students selected to work as discussion group leaders in Philosophy 102, 105, or 130. Variable credit.

Mr. Derr

Offered every year

207 SURSEMINAR: PHILOSOPHICAL JOURNALS/Individual Project

An introduction to the process of scholarly journal production by way of an involvement with the international philosophical journal, *Idealistic Studies*. Variable credit.

Mr. Wright

Offered every year

210-212 INTEGRATIVE STUDIES/Lecture, Discussion

These courses examine a philosophical issue in its historical, cultural, and thematic context, using a multidisciplinary perspective to integrate topics in cognate areas of inquiry and expression. Courses include: (210) Modernism in Philosophy, Literature, and the Arts; (211) Existentialism in Philosophy, Literature, and the Arts; (212) Philosophy and the Human Sciences. Prerequisite: two courses in philosophy plus courses in cognate areas.

Mr. Overvold

Offered periodically

215 KANT AND THE NINETEENTH CENTURY/Lecture, Discussion

Examines the work of Kant and selected later philosophers (Fichte, Hegel, Schopenhauer, Nietzsche, Marx, Engels, and Comte) with a special emphasis on their influence on contemporary thought. Prerequisite: two courses in philosophy, preferably including Philosophy 143.

Mr. Wright

Offered every other year

219 PHILOSOPHY AND FEMINISM/Lecture, Discussion

An investigation of selected topics in contemporary feminist philosophical literature. Topics and authors studied vary each year. Prerequisite: two courses in philosophy or permission of the instructor.

Ms. Thomas

Offered every other year

220 HISTORY OF ETHICS/Lecture, Discussion

Examines the principal ethical theories from the history of Western philosophy, including the answers given by philosophers such as Plato, Aristotle, Epicurus, St. Thomas Aquinas, Hobbes, Hume, Kant, Ross, Rawls, and Mill to the questions: What is "the Good?" How can it be realized in society and in one's personal life? Are there other standards of right conduct? Are moral judgments objective? Why should we be moral? Prerequisite: two courses in philosophy.

Ms. Sommers, Ms. DeCew

Offered every year

221 SOCIAL AND POLITICAL PHILOSOPHY/Lecture, Discussion

Surveys the leading philosophical accounts of social and political institutions, including social contract theory, anarchism, socialism, democratic capitalism, and communism. Property, civil and natural rights, freedom and obligations, and the legitimation of political authority are treated in detail. Readings include both classical and contemporary sources. Prerequisite: two courses in philosophy.

Ms. DeCew

Offered every other year

228 CONTEMPORARY MORAL THEORY/Lecture, Discussion

A survey of recent work in moral theory (including both metaethical and normative issues) by leading Anglo-American philosophers. Prerequisite: two courses in philosophy.

Ms. Sommers

Offered every other year

234 METAPHYSICS/Lecture, Discussion

An advanced survey of fundamental problems in metaphysics: universals, substance, the mind/body relation, category theory, identity and individuation, free will, and the nature of space and time. Prerequisite: two courses in philosophy.

Mr. Pakaluk, Ms. DeCew

Offered every year

235 CONCEPTS OF SELF/Lecture, Discussion

Considers the various philosophical concepts of the "self" that have been developed by classic and contemporary philosophers. Typical thinkers whose views may be covered include Aristotle, Plato, Descartes, Kant, Heidegger, Sartre, Kierkegaard, Strawson, and Stevenson. Prerequisite: two courses in philosophy.

Mr. Wright

Offered every other year

240 EPISTEMOLOGY/Lecture, Discussion

The study of the nature and sources of knowledge, with special attention to the interrelationships among belief, knowledge, evidence, proof, truth, and the problem of scepticism. Prerequisite: two courses in philosophy.

Ms. Thomas, Mr. Overvold

Offered every year

241 PHILOSOPHY OF SCIENCE/Lecture, Discussion

Examines such questions as: What is a scientific explanation? Can induction be justified? What grounds the claim that one theory is better than another? Are there such things as objective "facts?" Do scientific theories disclose the ultimate constituents of the universe? Special attention is given to the views of Hempel, Popper, Kuhn, Lakatos, Feyerabend, and Hesse. Prerequisite: four courses in natural sciences or two courses in philosophy.

Mr. Derr

Offered every year

250 PLATO/Seminar

An intensive examination of the philosophical thought of Plato. The seminar involves a detailed study of one or two of the major dialogues (such as the *Republic*, *Timaeus*, or *Parmenides*). Prerequisite: two courses in philosophy, including 141.

Mr. Pakaluk

Offered every other year

251 ARISTOTLE/Seminar

An intensive examination of the philosophical thought of Aristotle. The seminar involves a detailed study of some of the major works, such as the *De Anima*, *Physics*, *Metaphysics*, and *Nichomachean Ethics*. Prerequisite: two courses in philosophy, including 141.

Mr. Pakaluk

Offered every other year

256 KANT/Seminar

Students are introduced to Kant's *Critique of Pure Reason*—regarded by many as the most important philosophical text of the last several hundred years. Prerequisite: two courses in philosophy, including 143.

Mr. Wright

Offered periodically

257 HEGEL/Seminar

Hegel's *The Phenomenology of Mind* and selections from his other works. Prerequisite: at least two courses in philosophy, preferably including 143.

Mr. Wright

Offered periodically

258 THE ORIGINS OF ANALYTIC PHILOSOPHY/Seminar

An examination of the development of analytic philosophy through an intensive study of its three founding figures: Gottlob Frege, Bertrand Russell, and Ludwig Wittgenstein. Readings include Frege's *Foundations of Arithmetic*, Russell's *Mysticism and Logic*, and Wittgenstein's *Tractatus Logico-Philosophicus*. Prerequisite: two courses in philosophy, including 110 or 160.

Mr. Pakaluk

Offered periodically

259 HEIDEGGER AND WITTGENSTEIN/Seminar

The seminar concentrates on two of the most influential texts of twentieth-century philosophy: Heidegger's *Being and Time* and Wittgenstein's *Philosophical Investigations*. Prerequisite: three courses in philosophy.

Mr. Overvold

Offered periodically

263 PHILOSOPHY OF MIND/Seminar

A critical examination of the "nature" or concept of mind. Related issues to be considered are: mind/body relationship, the identity theory of mind/brain, the thesis of dualism, and other themes that involve the philosophical examination of psychological phenomena. Prerequisite: two courses in philosophy.

Mr. Overvold

Offered periodically

268 PHILOSOPHY OF PSYCHOLOGY

An advanced and critical study of psychology insofar as it has a philosophical character. Topics to be considered are varied and may include: the concepts of emergence and construct validity; the relationship between thought and language; the philosophical presuppositions of the different psychiatric schools; the use of introspection in psychological studies. Prerequisite: a total of four courses in philosophy and psychology, or graduate studies in psychology.

Mr. Pakaluk

Offered periodically

270 PHILOSOPHY OF LAW/Seminar

Examines fundamental questions in philosophy of law, such as: Is law "natural," "God-given," or "an artificial contrivance of man?" What is the purpose of law? What is the nature of judicial reasoning, and is it subjective or governed by some set of principles? How do alternative theories of law explain rights, duties, liability, responsibility, and so forth? What is the relationship between liberty, privacy, and justice? Prerequisite: two courses in philosophy.

Ms. DeCew

Offered every year

272 ADVANCED ISSUES IN MEDICAL ETHICS/Seminar

A rigorous investigation of two or three current controversies related to medicine, health policy, and ethics. Readings include original materials from the legal, medical, and philosophical literatures. Topics covered in the last two years include: surrogate motherhood, acquired immune deficiency syndrome, and withholding nutrition from neurologically impaired patients. Prerequisite: permission of the instructor.

Mr. Derr

Offered every other year

275 PHENOMENOLOGY/Seminar

An intensive study of two representatives of contemporary phenomenology: Edmund Husserl and Maurice Merleau-Ponty. Some consideration is given to other

major philosophers within the tradition and to the historical context of the phenomenological movement in general. Prerequisite: at least three courses in philosophy.

Mr. Overvold, Mr. Gardner Offered periodically

282 PHILOSOPHY OF LANGUAGE/Lecture, Discussion

An analysis of the concepts of reference, meaning, analyticity, intentionality, intensionality, rules, and the relation of language to thought. Particular attention is given to the speech act approach (Austin, Grice, Strawson, Searle) and to the implications of language theory for the social sciences (Ricoeur, Louch). Prerequisite: two courses in philosophy.

Mr. Derr Offered every other year

287 PHILOSOPHY OF THE SOCIAL SCIENCES/Seminar

A critical and intensive survey of the four alternative accounts of explanation, social reality, and social science put forward by the neopositivist empiricists, the phenomenologists, the neo-Wittgensteinians, and the continental hermeneuticists and critical theorists. Prerequisite: at least four courses in philosophy or graduate status in a social science.

Mr. Overvold, Mr. Derr Offered every other year

296 RESEARCH APPRENTICESHIP/Individual Projects

A research apprentice participates in the current professional research of her or his faculty sponsor. Students accepted as apprentices need initiative, perseverance, and superior research and writing skills. Recent apprentices have worked on such issues as surrogate parenting, ethical issues in occupational medicine, and German physicians' attitudes toward medical killing in the 1920s. Prerequisite: at least six courses in philosophy, permission of the instructor, and approval of the department.

Mr. Derr, Ms. DeCew, Mr. Overvold Offered every semester

Mr. Pakaluk, Ms. Sommers, Mr. Wright

297 ADVANCED TOPICS IN PHILOSOPHY/Individual Projects

Offers group discussion, individual tutorials, and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular department course(s) in the area; four courses in philosophy; and permission of instructor. Offerings vary each semester. Recent topics have included Jewish philosophy, feminist theory, philosophy and the holocaust, philosophical logic, Kant's *Critique*, and Hegel's *Idealism*.

Staff Offered every semester

298 CAPSTONE SEMINAR IN PHILOSOPHY

This seminar is required for completion of the major in philosophy. Its theme is a central philosophical issue around which the students' previous philosophical studies can be integrated. Responsibility for the conduct and presentation of research on the theme is shared equally by the students and the department faculty. At least two members of the philosophy faculty are normally involved in the seminar. Prerequisite: at least six courses in philosophy. Coordinated enrollment in Philosophy 299 (*Senior Thesis*) is recommended.

Mr. Derr, Mr. Overvold, Mr. Pakaluk, Ms. Sommers, Offered every year
Ms. DeCew, Mr. Wright

299 SENIOR THESIS/Individual Project

Students undertake an advanced individual study of a selected philosophical problem. The prerequisites, all of which must be fulfilled no later than the middle of the preceding semester, are: (1) permission of the department, which is usually granted only to majors with an academic record of at least B in the major; (2) prior completion of at least six courses in philosophy; and (3) submission and approval of a thesis proposal. The thesis proposal must describe the nature and scope of the proposed project, provide a bibliography of the principal sources the student expects to use, include a schedule for submission of first and final drafts to the adviser and department, and be signed by the student's thesis adviser. Upon completion of the thesis, the department faculty schedules an oral defense for the student. Variable credit. Typically one semester.

Staff

Offered every semester

Physics

DEPARTMENT FACULTY

Christopher P. Landee, Ph.D., *chair*: experimental condensed matter physics, magneto-chemistry

Roy S. Anderson, Ph.D.: electron spin resonance, radiation damage

John Davies, Ph.D.: theoretical plasma physics

Robert L. Goble, Ph.D.: technology assessment, atmospheric physics and turbulence

Harvey Gould, Ph.D.: theoretical condensed matter physics

Christoph Hohenemser, Ph.D.: experimental condensed matter physics, technology assessment

Roger P. Kohin, Ph.D., experimental condensed matter physics

Laszlo Takacs, Ph.D.: experimental condensed matter physics

AFFILIATE FACULTY

Van Blumel, Ph.D.

Michael Klein, Ph.D.

Edward L. O'Neill, Ph.D.

George Phillies, Ph.D.

UNDERGRADUATE PROGRAM

The department offers a variety of courses which reflect the diverse subject matter and applications of physics. Many courses are introductory in nature and are appropriate for undergraduates with little or no prior experience with physics or university-level mathematics. The introductory courses can be grouped as follows:

(1) *Scientific Perspective Courses*. Physics 100, 106, 130 and Astronomy 1 are suitable for students with no college mathematics background and have no prerequisites. They satisfy the *scientific perspective* requirement of the Program of Liberal Studies. These courses emphasize the historical, philosophical and aesthetic dimensions of physics and are designed to impart a degree of literacy in physics. Physics 110, 111, 112 and 115 also satisfy the *scientific perspective* requirement but are intended for prospective science majors.

(2)*Introductory Laboratory Courses.* The department offers undergraduates a variety of laboratory courses with few or no prerequisites. Included are Physics 115, 118 and 119. They are concerned with computer simulation, optics and electronics, and are taught independently of any lecture course. Typically they involve two discussion periods and one laboratory period per week. These courses fulfill the physics laboratory requirement for premedical/pre dental students.

(3)*Introductory Physics Courses.* Prospective science majors are strongly encouraged to study physics during their freshman or sophomore years since the understanding of the natural sciences requires a knowledge of the basic principles of physics. The department offers two distinct sequences of introductory courses. Physics 110 and 111 form a two-semester, noncalculus-based survey of physics appropriate for the majority of science majors, ETS majors, and premedical students. Physics 110, 112 and 113 form a three-semester survey of physics recommended for physics majors, as well as chemistry and mathematics majors. The 110, 112, 113 sequence covers mechanics, electricity and magnetism, quantum physics, and relativity in more depth than the 110, 111 sequence, thereby giving better preparation for advanced work. Physics 112 treats many of the topics covered in Physics 111, although in greater depth. Since Physics 112 is less comprehensive, it should be followed in sequence by Physics 113.

Students desiring further information about physics offerings beyond the catalog descriptions are invited to contact the course instructors or the undergraduate physics adviser. In addition to the courses listed above, the department offers upper-level and graduate courses.

THE MAJOR

Prospective physics majors are urged to enroll in Physics 110 and 112 in their freshman year and to consult the undergraduate physics adviser about their individual program of study. Minimum requirements for graduation with a degree in physics are fourteen courses of a common curriculum and four additional approved courses in physics or related areas. The common curriculum is taken by all physics majors and encompasses in-depth studies of mechanics, electricity and magnetism, and quantum and thermal physics. The common curriculum includes ten courses in physics and four courses in calculus.

To provide intellectual breadth in physics beyond the foundations of knowledge learned in the common curriculum, majors must also complete an individual program of four additional semesters in physics or related areas. Each individual program should be chosen in consultation with the undergraduate physics adviser. All majors are encouraged to design a program which suits their particular needs and interests. Several possible examples of individual programs might be classified as follows:

General Physics—a program appropriate for students who wish to major in physics as part of liberal arts education but who do not intend to pursue graduate study or a career of research in physics.

Preprofessional Physics—a program of advanced courses in physics, chemistry and mathematics to prepare the student for graduate study in physics or research in industry.

Biological Physics—a program including chemistry and biology courses which could be used as preparation for entrance to medical or dental schools or for careers in the biomedical professions.

Technology Assessment—a program of interdisciplinary courses to enable students to make physical, economic and value assessments of technological systems.

Courses in the common curriculum include:

	UNITS
(1) <i>Introductory Physics</i> : Physics 110 and Physics 111 or 112 (112 is recommended)	2
(2) <i>Intermediate-level Physics</i> : Physics 113 and 123	2
(3) <i>Calculus</i> : Mathematics 120, 121, 130, and 131	4
(4) <i>Laboratory courses</i> : Physics 114 and 119	2
(5) <i>Upper-level courses</i> : Physics 161, 162, and 174	3
(6) <i>Senior project</i> : Physics 231, or equivalent	1
TOTAL IN COMMON CURRICULUM	14
(7) Additional approved electives	4
TOTAL IN MAJOR PROGRAM	18

Students with strong backgrounds in physics and mathematics may replace required courses with appropriate advanced courses, as approved by the departmental undergraduate adviser. Students with advanced placement credits may count them towards their major requirements. It is possible to complete all requirements for the major within three years, so that it is not essential to begin the study of physics in the freshman year. The Physics Department offers *Introductory Physics*, 110 and 111, every semester, so that students can begin studies at any time. All majors are expected to confer with the undergraduate adviser in the middle of each semester, prior to preregistration, to plan courses for the following semester and to ensure that all requirements for graduation are being satisfied.

Information about career opportunities after graduation as well as further information about courses and major requirements can be found in the booklet, *Physics at Clark*, published by the department. Copies can be obtained in the department office or from the undergraduate adviser.

THE CAPSTONE EXPERIENCE

An independent research project is the most appropriate capstone experience for physics majors. The required capstone course is normally one semester of Physics 231, *Special Projects in Physics I*, or an approved course of comparable scope. Near the end of the junior year, the physics major should arrange a topic for his or her senior project in consultation with department faculty members. Work is conducted under the guidance of a faculty member, often with the assistance of graduate students engaged in research. It is the intention of the faculty to design projects that lead to publication in refereed physics journals. Majors with a special interest in research, particularly preprofessional majors, are urged to enroll in more than one semester of Physics 231-233. Research opportunities in the department are listed in the university publication, *Undergraduate Research Opportunities*, and in the departmental booklet, *Physics at Clark*.

HONORS

Students can apply for departmental honors in recognition of meritorious academic standards and research creativity. An honors candidate must maintain an overall B- average. All eligible majors are encouraged to participate in the honors program.

Honors candidates are expected to conduct a research project under guidance of a faculty member during the junior or senior years. A thesis describing the work must be submitted to the faculty no later than April 1 of the senior year and defended orally in a special departmental convocation about two weeks later. Recommendation for honors in physics is made on the basis of the quality of the thesis and student

performance in the defense. Students may gain credit for thesis research by registering for Physics 231, 232 and 233. Interested majors are urged to consult with faculty members early in order to choose an appropriate research topic.

GRADUATE PROGRAM

The department offers the master of arts and doctor of philosophy degrees in physics. Departmental research is concentrated in experimental and theoretical studies of condensed matter including magnetic critical phenomena, magnetic and optical properties of solids, high temperature superconductivity, and the dynamics of first-order phase transitions. Other research areas include theoretical plasma physics and interdisciplinary studies of risk assessment and energy technology.

The academic requirements of the graduate program are flexible, with emphasis on early student participation in research and informal student evaluation. A distinctive part of each student's course work is Physics 303, a "research apprenticeship" course, which introduces the student to research in several different research groups at the earliest possible time.

Beginning graduate students must take a placement examination, which tests their knowledge of undergraduate physics. Students failing this examination may be required to take remedial courses before entering fully into the graduate program, and they may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the M.A. degree, students must satisfy the general university residence and course requirements, pass with a grade of B- or better four units of the basic graduate courses (Physics 301, 302, 305, 306, 309 and 310), one unit of Physics 303, and pass two oral examinations in the subject matter of the basic graduate courses. In contrast to M.A. physics programs at many other universities, M.A. candidates must also complete a thesis based on original research.

To receive the Ph.D., students must, in addition to fulfilling university residence and course requirements, pass with a grade of B or better the basic graduate courses Physics 301, 302, 305, 306, 309 and 310, and two units of Physics 303. The department does not rely on a formal written qualifying examination to evaluate student readiness for Ph.D. research. Students must pass four oral examinations that stress qualitative as well as quantitative aspects of the subject matter of the basic graduate courses, preferably before beginning dissertation research. Students must also pass at least one graduate course in a subject other than physics, demonstrate literacy in a foreign language and computer programming, and complete a dissertation based on original research. Students entering with advanced standing and transferable credit are encouraged to demonstrate proficiency in the basic graduate courses through oral examinations.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as teaching assistants or teaching fellows in the department, or elsewhere if approved by the department.

Further information on research interests of the faculty and research opportunities for graduate students can be found in the departmental brochure, *Graduate Study and Research in Physics at Clark*. Copies are available upon request from the graduate student adviser.

Application forms for admission and financial aid may be requested from the chair of the department. During the academic year, financial support is available in the form of tuition remissions, teaching assistantships and research assistantships. The department considers the financial support of its graduate students an important responsibility.

COURSES

1 EXPLORING THE UNIVERSE

Refer to course description under Astronomy 1.

Mr. Andersen

Offered every fall

100 EINSTEIN AND HIS IDEAS

Introduces students with no special preparation or competence in mathematics and science to the contributions of Einstein to contemporary physics. Much of the course is devoted to a systematic development of Einstein's special theory of relativity, Einstein's role in the development of quantum mechanics, and his involvement in political and humanitarian causes. Throughout the course we seek to gain insight into Einstein as a person and into the nature of the creative process. This course satisfies either the formal analysis or the *scientific perspective* requirement in the Program of Liberal Studies.

Mr. Gould

Offered every other year

106 LIGHT, COLOR AND VISION

This course covers a great variety of optical and visual phenomena selected from the following: the nature of light, light sources, shadows, eclipses, pinhole cameras, mirrors, kaleidoscopes, optical effects in the atmosphere (mirages, rainbows, halos, glories), fiber optics, optical properties of gems (diamonds, opals), lenses and the images they produce, anamorphic art, cameras (focusing, types of lenses, shutters, apertures, perspective), photographic film and development, the eye (afterimages, eye movements, stroboscopes, optical illusions), simple optical instruments (eyeglasses, contact lenses, microscopes, telescopes, schlieren photography), binocular vision and the perception of depth (stereoscopes, 3-D postcards, distorted architecture), color in nature and art (methods of color mixing, pigments, paints, printers' inks, half-tone pictures), human color perception (complementary colors, color illusions, color deficiency, contingent aftereffects), color photography (additive and subtractive methods, instant color photography, false color, Kirlian photography), the wave nature of light (coherence, interference, resolving power, moiré patterns), polarized light and sunglasses, liquid crystal displays, optical activity, holography (transmission, reflection, and white light holograms, holographic movies), light in modern physics (spectra, lasers, relativity, black holes). Many of color slides of natural, man-made, and artistic phenomena will be shown in lecture, and students will perform several experiments in lab. The course satisfies the *scientific perspective* requirement and is designed primarily for students outside the physical sciences. There are no prerequisites, and mathematics will be used only as needed.

Mr. Kohin

Offered every spring

110 INTRODUCTORY PHYSICS - PART I

This is an introductory-level, problem-oriented course for science majors and the general student desiring a survey of physics. The course stresses the simplicity and self-consistency of physical models in explaining a variety of physical phenomena. Topics discussed include Newtonian mechanics, wave motion, and an introduction to the thermal properties of matter. Calculus is not required although elements of calculus will be introduced during the course. The course may be followed by either Physics 111 or 112, depending on the particular goals of the student. Together with Physics 111 and a laboratory course it fulfills the usual entrance requirements for medical and dental schools. The course satisfies the *scientific perspective* requirement of the Program of Liberal Studies. There are three lectures and one discussion section per week.

Mr. Andersen, Mr. Gould,

Mr. Kohin, Mr. Landee, Mr. Takacs

Offered every semester

111 INTRODUCTORY PHYSICS - PART II

A continuation of Physics 110. Includes electricity, magnetism, optics, relativity, atomic and nuclear physics. Students who do not intend to take a second year of physics should enroll in this course in preference to Physics 112. It has three lectures and one discussion section each week.

Mr. Andersen, Mr. Gould,

Mr. Kohin, Mr. Landee, Mr. Takacs

Offered every semester

112 CLASSICAL PHYSICS

This course is a continuation of Physics 110 for students desiring a more complete introduction to physics. Topics, which include electricity, magnetism, and light and optics, are explored in greater depth than in Physics 111. Physics 112 is the recommended second-semester course for physics, mathematics and other science majors who intend to continue with *Quantum Physics*, Physics 113. Three lectures and one tutorial session per week. Credit is not given for both Physics 111 and 112. The course requires permission of the instructor for entry. Corequisite: Mathematics 121 or 125.

Mr. Takacs

Offered every spring

113 QUANTUM PHYSICS SEMINAR I

Quantum Physics Seminar I is the third semester of a four-semester introductory survey of physics, and is normally intended to follow Physics 111 or 112. The seminar meets once a week for three hours and in addition involves a full afternoon of laboratory. The seminar involves no lectures, and instead seeks to train the student in the art of clear scientific expression. This is achieved by asking students to present oral and written material on the fundamental concepts of physics, selected problems, and laboratory experiments. Physics 113 begins with a review of classical electromagnetism, and focuses on the experimental basis for Einstein's special theory of relativity and the quantum nature of light. Key experiments involve the measurement of the speed of light, the increase of electron mass with increasing velocity, and the interference of a single photon with itself.

Mr. Hohenemser

Offered every fall

114 QUANTUM PHYSICS SEMINAR II

Quantum Physics Seminar II is the fourth semester of a four-semester introductory survey of physics, and is intended to follow Physics 113. The seminar structure of Physics 114 continues the pattern of extensive student oral and written presentations established in Physics 113. The seminar meets once a week for three hours and in addition involves a full afternoon of laboratory, which compared to Physics 113 increasingly encourages the student to design her/his own experimental approaches. Physics 114 emphasizes the experimental basis of nuclear and atomic structure, and begins the theoretical development of wave mechanics. Laboratory work employs modern research instrumentation to address the historically important contributions by Einstein, Rutherford, Compton, Moseley and Chadwick. A special section deals with the technological application of nuclear fission and fusion.

Mr. Hohenemser

Offered every spring

115 COMPUTER SIMULATION LABORATORY

This course introduces students to the essential features of computer simulation and its diverse applications. The course is project-oriented, with students proceeding at their own pace depending on background and interests. Projects involve the simulation of dynamical systems such as the harmonic oscillator and the two-body problem, and simple random systems. Methods include the numerical solution of simple differential equations and Monte Carlo techniques. No background in

computer programming is necessary. It is recommended that prospective physics majors complete this course early in their career so that they can use the computer more effectively in their advanced courses. Two lecture discussions and one scheduled laboratory per week. This course satisfies the *scientific perspective* requirement of the Program of Liberal Studies. Prerequisites: Physics 110, Mathematics 120, or permission of the instructor.

Mr. Gould

Offered every spring

118 OPTICAL PROJECTS LABORATORY

This introductory laboratory covers the principles, applications, and techniques of modern optics. Projects treat imaging and photographic techniques, basic optical instruments including the microscope, lasers and holograms, optical communication using fiber optics, and interaction of light with matter. This course is of interest to biology, geography, and psychology majors, as well as to physics and chemistry majors. It satisfies the physics laboratory requirement for premedical and pre dental students. Two tutorial sessions and one laboratory per week. Prerequisite: one course in physics.

Mr. Kohin, Mr. Takacs

Offered every year

119 ELECTRONICS LABORATORY

This is an introductory laboratory course designed to teach the principles of modern electrical measurement and control. Basic skills such as the fundamentals of DC and AC circuit theory and use of test instruments such as multimeters and the oscilloscope are taught. Emphasis is given to operational amplifiers and digital circuits. The course satisfies the physics laboratory requirement for premedical/pre dental students. Two lectures and one laboratory each week. No prerequisites other than high school algebra.

Mr. Landee

Offered every year

123 STATISTICAL AND THERMAL PHYSICS

This course introduces the concepts and techniques of statistical and thermal physics including statistical mechanics, thermodynamics and kinetic theory. The overall goal of the course is to enable students to understand the behavior of macroscopic systems in terms of their basis in atomic theory. Topics treated include entropy and the second law of thermodynamics, the Boltzmann probability distribution, the thermodynamics of gases and paramagnets, heat and work, and first and second law efficiencies of simple engines. Prerequisites: Physics 113; corequisite: Mathematics 131.

Mr. Gould, Mr. Kohin

Offered every year

130 ENERGY SOURCES AND SYSTEMS

An introduction to the subject of energy for ETS majors and others interested in the utilization of fossil fuels, solar and wind power, geothermal energy, and nuclear fission and fusion. Emphasis is placed on basic concepts, thermodynamic principles, efficiency in use, and methods of converting both energy and energy resources from one form to another. The course provides the necessary background for those planning more detailed study of energy technology and/or policy.

Mr. Davies

Offered every other year

161 THEORETICAL PHYSICS I

Physics 161 and 162 constitute an introduction to the concepts of classical theoretical physics. Topics considered in Physics 161 include particle and rigid body mechanics, and the development of electro- and magnetostatics. Useful mathematical methods

are introduced and applied. Prerequisites: Mathematics 131 and Physics 111 and 112.

Mr. Davies, Mr. Kohin

Offered every year

162 THEORETICAL PHYSICS II

This course is a continuation of Physics 161. Topics covered include the development of electrodynamics through Maxwell's equations and relativity. Useful mathematical methods are developed. Prerequisite: Physics 161.

Mr. Davies, Mr. Kohin

Offered every year

174 ATOMIC AND NUCLEAR PHYSICS

This intermediate level course provides an introduction to quantum mechanics. Basic principles are introduced, and the theory is applied to the study of atoms, nuclei, molecules and solids. Prerequisites: Physics 113 and Mathematics 131.

Mr. Landee, Mr. Takacs

Offered every year

201 CLASSICAL DYNAMICS

This course is designed to prepare the physics major for graduate work in physics. Topics covered include Hamilton's principle, classical scattering theory, rigid body motion, canonical transformations, the Hamilton-Jacobi theory, and mathematical methods of physics. Prerequisite: Physics 161 and 162.

Mr. Davies

Offered every year

202 ELECTRODYNAMICS

This course is designed to prepare the physics major for graduate study in physics. Topics covered include boundary-value problems in electrostatics and magnetostatics, electromagnetic field equations and special relativity, electromagnetic waves, radiation theory, multipole fields, and mathematical methods of physics. Prerequisite: Physics 162.

Mr. Davies

Offered every year

205 QUANTUM MECHANICS - PART I

Physics 205 and 206 constitute a comprehensive introduction to the concepts of quantum mechanics and their application in physics and chemistry. The goal of this year course is to prepare students for graduate work. The lectures are the same as in Physics 305, but assignments and evaluation are separate. Prerequisites: Physics 174 and Mathematics 131.

Staff

Offered every year

206 QUANTUM MECHANICS - PART II

Physics 206 is a continuation of Physics 205. Prerequisite: Physics 205.

Staff

Offered every year

209 STATISTICAL MECHANICS

This course is designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309, but evaluation is separate. Prerequisites: Physics 123 and 174.

Mr. Gould, Mr. Phillies

Offered every other year

214 PHYSICAL INSTRUMENTATION LABORATORY

An introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 114, except that interpretation of experiments is at the

advanced undergraduate or beginning graduate level. Undergraduates who have completed 114 may register for 214.

Mr. Hohenemser

Offered every year

215 ADVANCED COMPUTER SIMULATION LABORATORY

This course is similar in nature to Physics 115 but treats topics at a more advanced level. The course is suitable for graduate students in the sciences or undergraduates who have completed Physics 115. Prerequisite: Physics 115 or permission of the instructor.

Mr. Gould

Offered periodically

219 ADVANCED ELECTRONICS LABORATORY

This course is similar to Physics 119 but treats topics at a more advanced level. The course is suitable for graduate students in the sciences or undergraduates who have completed Physics 119. Prerequisite: Physics 119 or permission of the instructor.

Mr. Landee

Offered every year

230 DIRECTED READINGS IN PHYSICS

These directed readings in physics will provide for special needs not covered in regular courses. Offered by arrangement and for variable credit.

Staff

Offered every semester

231 SPECIAL PROJECTS IN PHYSICS I

This is an independent research project in experimental, theoretical or applied physics, done under the guidance of a faculty adviser. It is normally taken in the senior year to fulfill the senior project requirement. Students may enroll more than once in Physics 231 if they begin a new project under a different faculty adviser. Students in continuing projects should enroll in Physics 232 and 233. Offered for variable credit. By permission of the faculty adviser.

Staff

Offered every semester

232 SPECIAL PROJECTS IN PHYSICS II

This course is the second semester continuation of Physics 231 for students engaged in an ongoing research project under the same faculty adviser. Offered for variable credit. Prerequisites: Physics 231 and permission of the adviser.

Staff

Offered every semester

233 SPECIAL PROJECTS IN PHYSICS III

This course is the third semester continuation of Physics 231 and 232 for students engaged in an ongoing research project. Offered for variable credit. Prerequisites: Physics 232 and permission of the adviser.

Staff

Offered every semester

250 SENIOR SEMINAR

This capstone covers a selection of topics of current interest in physics. Offered for variable credit.

Staff

Offered periodically

301 CLASSICAL DYNAMICS

A graduate-level course in classical mechanics. The topics covered are similar to Physics 201 but are treated in greater depth.

Mr. Davies

302 CLASSICAL ELECTRODYNAMICS

A graduate-level course in classical electromagnetic theory. The topics covered are similar to Physics 202 but are treated in greater depth.

Mr. Davies

303 RESEARCH APPRENTICESHIP

An apprentice has active participation in the experimental and theoretical research groups of the department. The student spends seven to fourteen weeks working in one or more research group(s). Ph.D. students should enroll in the course for two semesters; M.A. students for one semester.

Staff

305 QUANTUM MECHANICS - PART I

Physics 305 and 306 constitute a comprehensive introduction to the concepts of quantum mechanics and their application in physics and chemistry. Topics treated in Physics 305 include the foundations of quantum mechanics, symmetries and angular momentum, particle in a central potential, electron spin, and perturbation theory.

Staff

306 QUANTUM MECHANICS - PART II

Physics 306 is a continuation of Physics 305. Topics discussed include scattering theory, interaction of radiation with matter, second quantization, applications to simple atoms and molecules, and an introduction to many-body theory.

Staff

309 STATISTICAL MECHANICS

This is a comprehensive course in statistical mechanics with applications to physical and chemical systems. Topics discussed include ensemble theory, the statistical basis of thermodynamics, quantum statistics, the cluster expansion of a classical gas, ideal Bose and Fermi systems, applications of the renormalization group to the Ising model and linear polymers, and fluctuation theory.

Mr. Gould, Mr. Phillies

310 SOLID STATE PHYSICS

This course surveys the most important experimental properties of solids and introduces students to the quantum theory of solids. Topics include crystal and reciprocal lattice structures; the free electron theory of metals; electronic band structure and the Fermi surface; lattice vibrations; and the elementary excitations of solids. Prerequisite: Physics 305, or permission of instructor.

Mr. Landee

317 SOLID STATE SPECTROSCOPY

A theoretical and experimental review of the physics of solids observed using spectroscopic methods.

Staff

319 ADVANCED STATISTICAL MECHANICS

This course treats the statistical mechanics of interacting systems including the theory of critical phenomena and kinetic theory. Other advanced topics of current research interest will also be discussed. Prerequisite: Physics 309.

Mr. Gould

320 ADVANCED SEMINAR IN PHYSICS

This course provides for special coverage of topics in physics of current research interest. Offered for variable credit.

Staff

325 RESEARCH SEMINAR

A student participation seminar in current research problems. Offered for variable credit.

Staff

340 COLLOQUIUM

Weekly invited lecturers speak on research topics of current interest. Required for all graduate students. Not offered for credit.

Staff

350 RESEARCH

Thesis and dissertation preparation. Offered for variable credit.

Staff

Psychology

DEPARTMENT FACULTY

James V. Wertsch, Ph.D., *chair*: language and thought, socialization in sociocultural settings, discourse and the nuclear arms debate

Sandra T. Azar, Ph.D.: high risk families, parenting, child abuse, and developmental skills underlying self-control

Robert W. Baker, Ph.D.: personality theory, abnormal behavior, clinical methods: prediction, measurement, and facilitation of student adjustment to college

Michael Bamberg, Ph.D.: first and second language acquisition, narratives, development of categorization

Roger Bibace, Ph.D.: holistic developmental approaches to life cycle, behavioral sciences and family medicine, doctor/patient relationships, psychoanalysis

Nancy Budwig, Ph.D.: language development, the development of categories of human action, socialization

Leonard Cirillo, Ph.D.: developmental approaches to metaphorical representation, psychotherapies

William Damon, Ph.D.: social cognition, developmental psychopathology, moral development, peer interaction and developmental growth

Joseph H. deRivera, Ph.D.: phenomenological psychology; affective experience particularly the explication of structure and function of different emotions; the relationships between emotion and action in field-theory; the role of social psychology in the prevention of nuclear war

Rachel Joffe Falmagne, Ph.D.: logical cognition, logico-semantic development

Bernard Kaplan, Ph.D.: developmental orientation to, and analysis of, psychological activities and operations; perception, language, group formation

James D. Laird, Ph.D.: emotional experience, self-attribution, attributions to others, structures of person awareness, world hypotheses as personality variables

Thomas A. Schoenfeld, Ph.D.: developmental psychobiology, olfaction

David A. Stevens, Ph.D.: taste and smell, psychophysics, discrimination learning

Nicholas S. Thompson, Ph.D.: social behavior and communication of crows, bluejays, and mimic thrushes; evolutionary theory and behavior

Ina C. Uzgiris, Ph.D.: cognitive development, infant development, mother-infant interaction, communication development, changes in understanding of object concept and spatial relations
 Morton Wiener, Ph.D.: verbal and nonverbal communication and nonverbal behaviors; the learning of behaviors labeled schizophrenic, of behaviors labeled depressive, and other psychopathological behaviors
 Marianne Wiser, Ph.D.: visual perception; cognitive development, especially concept acquisition

ADJUNCT FACULTY

Victoria A. McGillin, Ph.D.
 David Zern, Ph.D.

AFFILIATED FACULTY

Robert A. Ciottone, Ph.D.
 David Finkel, Ph.D.
 Edith F. Kaplan, Ph.D.
 Deborah S. Kellett, Ph.D.
 Marlene Oscar-Berman, Ph.D.
 Lawrence Peterson, Ph.D.
 Alan Rosenbaum, Ph.D.
 Miriam Sexton, Ph.D.

SENIOR RESEARCH ASSOCIATE

Robert O'Connell, Ph.D.

RESEARCH ASSOCIATES

Jonathan Demick, Ph.D.
 Ogretta V. McNeil, Ph.D.
 Mark Quirk, Ed.D.
 Mary Walsh, Ph.D.

EMERITUS FACULTY

Tamara Dembo, Ph.D.
 Seymour Wapner, Ph.D., *chair*, Executive Committee, Heinz Werner Institute

UNDERGRADUATE PROGRAM

In its undergraduate courses and research, the department emphasizes the same respect for scholarship that it has at the graduate level. The aims of the undergraduate program are: to promote respect for intellectual activity, to encourage an attitude of intelligent inquiry, and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance students' liberal arts background and prepare them for graduate work in psychology or related disciplines. The Psychology Department is part of the Jacob and Frances Hiatt School of Psychology.

COURSE NUMBERS: Ranges of course numbers have specific meanings according to the following key:

<i>Range</i>	<i>Meaning</i>
100-109	Courses all majors must take (general, quantitative methods)
110-149	Survey courses, psychology as a life science
150-189	Survey courses, psychology as a social or human science
190-199	Special freshman and sophomore courses
200-214	Laboratory courses

- 215-229 Research courses
 - 230-234 More advanced courses, psychology as a life science
 - 235-239 More advanced courses, psychology as a social or human science
 - 240-259 Primarily junior and senior specialized seminars (may not be taken for graduate credit without special permission)
 - 260-289 Primarily senior and graduate specialized seminars (may be taken for graduate credit without special permission)
 - 290-299 Special courses (honors, directed readings, research, practicum)
- Unless otherwise stated, Psychology 101 is a prerequisite to all other psychology courses.

Major Requirements. The major in psychology consists of psychology and related course requirements. The psychology requirements are designed to ensure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science; to ensure some familiarity with experimental and observational methods (laboratory requirement); to provide background in essential quantitative skills (statistics requirement—Psychology 105); and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two groups of related courses reflects the conviction of the department that all academic areas are actually or potentially related to psychology, and also that scholarship involves, at some point, studying subject matter in considerable depth.

1. Psychology Courses

Total of at least eight full-course equivalents, including:

- a. 101—*General Psychology*
- b. 105—*Quantitative Methods*
- c. One full-course equivalent from range 110-149 or 230-234 (survey courses, psychology as a life science)
- d. One full-course equivalent from range 150-189 or 235-239 (survey courses, psychology as a social or human science)
- e. Two full-course equivalents from range 200-229 (laboratory and research courses)
- f. Two full-course equivalents from range 240-289 (upper-level seminars)

2. Groups of Related Courses

A group of related courses is defined as at least four full-course equivalents in a single area or department. Two groups of related courses must be chosen from the following areas or departments:

Biology
 Chemistry
 Classics
 Comparative Literature
 Engineering, Applied Math, or Computer Science
 Economics
 Education
 English
 Environment, Technology and Society
 Foreign Languages and Literatures
 Geography
 Government and International Relations
 History
 International Development
 Management
 Mathematics

Philosophy
Physics
Sociology
Visual and Performing Arts
Women's Studies

There are two restrictions on permissible course sequences within an area or department:

- a. In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes introductory courses designed for nonmajors.
- b. The courses must form a coherent sequence or program within the context of the department in which a group of related courses is taken. In most cases, this will be self-evident. However, in doubtful cases, the student must consult his or her psychology adviser.

The Honors Program

Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member under whose direction they intend to do research work to submit their names to the full faculty for consideration by the end of the junior year. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides a basis for a thesis which, upon completion, is presented and defended by the students before an examining committee of faculty members. On the basis of the report of the examining committee and the students' adviser for the project, the department may recommend that the students be awarded departmental honors at one of the following levels: highest honors, high honors, or honors in psychology.

DOCTORAL PROGRAM

General Requirements

The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available.

Although a small department cannot reflect the entire spectrum of perspectives toward the study of psychology that one finds in the United States, a considerable number of theoretical orientations are exemplified by the various members of the department. The most important feature of the department's intellectual ethos is an emphasis on theoretically grounded inquiry and conceptually and methodologically rigorous research. In all of the department's programs, including the clinical program, there is a deep concern with conceptual analysis and theoretically grounded and directed inquiry. The department is perhaps unusual on the American scene in the diversity of methods of investigation used by faculty and graduate students in their work and the range of problems taken to fall within the purview of psychologists. Students are acquainted not only with traditional experimental and naturalistic methods, but also with phenomenological, structural, hermeneutic, and other methodologies.

Participation in research is strongly encouraged throughout the graduate experience, the nature of the research being determined by interests a student shares with faculty members. Students are expected to contribute significantly to

problem formulation, conceptualization, methodology, analysis, and write-up of research work.

Advisory Committee

A committee consisting of two full-time faculty members will be assigned to help students plan their curriculum to best meet needs and goals. This committee will consist of one faculty member whose work is closest to the students' research interests, and one other assigned by the department. The committee may change or waive any of the requirements of specific training programs, but ordinarily its function is to assist students in selecting a curriculum from within the normal requirements.

Coursework

Students ordinarily are expected to take four courses in each semester for their first two years, including *Problem, Theory, and Method in Psychology* (301) and *Statistical Methods* (302) in their first year. In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses and research and reading courses. A total of at least eighteen one-semester courses is required for admission to candidacy for the Ph.D.

To provide a basis for evaluation of students' progress early in their careers, all students are required to write two papers (or the equivalent) during each of their first four semesters, except that they need not write such papers during the semester in which they complete their M.A. thesis. Early in the semester, before writing a paper, the student should discuss the proposed content with the faculty member. In some cases, an instructor may substitute some other evaluable performance (e.g., an examination) for a paper. Note that it is the student's responsibility to ensure that at least two faculty members understand that the student intends to submit these papers to them. It is the faculty member's responsibility to define what constitutes an adequate fulfillment of this requirement. Students are also responsible for informing the department office, before the end of the semester, what papers will be submitted and which faculty member will evaluate those papers. If students have any questions they should consult their advisory committee.

Qualifying Examination in Quantitative Methods

All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the students' first year, at the completion of the course in quantitative methods.

M.A. degree

The M.A. degree, a required step in our Ph.D. program, is awarded after satisfactory completion of at least eight one-semester courses or their equivalent; the fulfillment of the departmental paper requirement; and the execution of an empirical thesis under the supervision of a faculty member and adequately defended in a one-hour examination. The thesis is expected to be relatively brief and may be written in the form of an article suitable for submission to a journal appropriate to the kind of work embodied in the research. All of these requirements for the M.A. degree must be completed by the end of the second year of graduate study. Students who have not completed their M.A. degree by the end of the second year will not be permitted to enroll as resident students for the third year. Students who do not complete the M.A. degree by the end of the third year ordinarily are not permitted to continue in the Ph.D. program, but will be given ample opportunity to complete a master's degree.

Major Paper and Oral Examination

The major paper is normally to be done within one year after completing the M.A. This paper is expected to demonstrate mastery of research and theory in the students' area of specialization. To facilitate completion, students are encouraged

to enroll in *Directed Readings* with a faculty member during one or both of the semesters in which the paper is to be completed. An oral examination of this material will be held shortly after the paper has been submitted. If the paper is not finished on time, the faculty will select some of its members to give additional help to these students during the summer. Students who do not complete the paper before September of the fourth year will not be permitted to enroll as resident students for that year or until the paper is completed.

Admission to Ph.D. Candidacy

Satisfactory completion of at least eighteen one-semester content courses (including 301 and 302), as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree. All the requirements for Ph.D. candidacy, including the major paper, must be met within two years of completing the M.A. Students who do not do so may be dropped from the Ph.D. program.

Ph.D. Dissertation

Students demonstrate the ability to conduct research by the presentation of an acceptable dissertation. The topic of the dissertation usually is selected by students working with one or more members of the faculty. Once students have worked out a general research plan, a dissertation committee is formed to supervise and assist in all phases of the research effort, from articulation of the research design to the write-up of the final draft. After the committee has reviewed the dissertation proposal carefully, the proposal is circulated to all other members of the faculty for comments and suggestions. The dissertation committee then has the authority and responsibility to approve the final form of the proposal before students undertake the actual research. After completion of the research, students submit a draft of the dissertation to the committee, which will aid students in making necessary revisions. At the point that the committee decides that the dissertation is complete and ready for presentation, copies of the dissertation are made available to the entire department faculty.

Ph.D. Oral Examination

Following submission of the dissertation to the department, a final two-hour oral examination is held in which students present and defend their dissertation and show competence in a general field of psychology as well as in their area of specialization.

These guidelines result in an upper limit of six years for completion of the Ph.D. (excluding an internship year or official leave). An additional year may also be granted by faculty approval of a petition on other grounds such as part-time study because of financial necessity. Those desiring more detail on graduate requirements and their timing should request a copy of *Information on the Graduate Program in Psychology*.

Graduate Training in Clinical Psychology

The basic philosophy in training clinical psychology students, as for all graduate students in the department, is that specialization is a process of individuation and emphasis rather than one of restriction, isolation, or compartmentalization. Our aim is to provide an integrated series of intensive educational experiences in class, in laboratory, and in practicum clinical settings (at the University or other agencies) in which specialist training in clinical psychology is attained against a background of increasing competence in general psychology, theory, and research.

In addition to the more traditional opportunities, the program offers: (1) child clinical, (2) human neuropsychology, and (3) marital and family interactions. The program has, in addition to the general requirements, the following special requirements. Students must take at least one course from each of three areas: (1) biological bases of behavior (e.g., physiological psychology, behavior and evolution,

human neuropsychology); (2) cognitive-affective bases of behavior (e.g., symbolism, cognitive development, logical reasoning, action and emotion); and (3) social bases of behavior (e.g., interpersonal relations, social cognition). Students must take the following courses in individual behavior: *Psychopathology* (312) and *Theories of Psychotherapy* (332). Students must complete a minimum of one year of internship in clinical settings; they may satisfy this requirement by a full-time internship in the third or fourth year or by an internship "distributed" part-time over several years. All clinical students participate for four years in the Psychological Services Center, a department-operated training agency offering psychodiagnostic and psychotherapeutic services to members of the Clark community. For further information contact the codirectors, Dr. Leonard Cirillo or Dr. Morton Wiener.

Graduate Study in Developmental Psychology

The developmental psychology curriculum is intended to prepare students for a career in research, teaching, and scholarly activity. It strives to impart both theoretical sophistication and competence in observational, experimental, and comparative inquiry with regard to developmental issues. The emphasis is on ways of representing and examining all life phenomena rather than focusing exclusively on a particular population (e.g., infants, children, adults) or a specific subject matter. Within this general framework, however, in-depth training is offered with a particular population and in a specific area (cognitive processes, language, symbolization, social conception, mother-infant interactions, logical reasoning, psychopathology, collective phenomena, and others). A nursery school associated with the University and a modern laboratory serve as facilities for both empirical and clinical research with children.

Since there are no sharp separations between different areas within the department, students who work primarily in developmental psychology have the opportunity to learn about a variety of methodologies (naturalistic, experimental, historical, clinical, phenomenological, hermeneutic) that enter into developmental analysis. For further information contact the director, Dr. Ina C. Uzgoris.

Graduate Study in Social-Personality Psychology

Perhaps the most distinctive feature of the social-personality curriculum is its emphasis on the description and analysis of social *experience* and *action*. The faculty members most directly involved have developed different research strategies that tap into the experiences of everyday life and the development of moral action. They focus on the social-emotional aspects of interpersonal relations, the role of affective experience in the choices that persons confront as they lead their lives, and the manner in which persons come to know and experience themselves. While there are no formal requirements in the social-personality area, students are expected to become acquainted with the main approaches to experience and action, and are encouraged to participate in seminars with as many different faculty members as possible. For further information contact the director, Dr. Joseph deRivera.

Graduate Study in Experimental Psychology, Cognition and Psychobiology

Graduate training towards the Ph.D. is offered in the areas of perception, sensory psychology, cognition, language, psychobiology, environmental cognition, and ethology. There is a flexible sequence of seminars to cover the theoretical foundations, content, and methodology in those areas, as well as specialized seminars.

Some of the current experimental interests of the faculty include logical cognition, mental imagery, visual perception, conceptual development, sensory psychology and psychophysics of taste and smell, ethology and evolutionary theory, and individual differences in cognitive processing.

In teaching and research the faculty reflects the values traditional at Clark

which emphasize theoretical relevance and preserving and exploring the connection between areas of specialization. Faculty and students within and across areas typically maintain extensive and regular interactions. In particular, most of the faculty have close connections with the developmental and social-personality areas, both in teaching and research.

The department also has educational and research ties with a number of institutions in the Worcester-Boston area (e.g., the Neuropsychology Unit of Boston Veterans Administration Hospital, the Worcester Foundation for Experimental Biology, the University of Massachusetts Medical School), as well as other departments at Clark.

POSTDOCTORAL TRAINING

The Psychology Department and the Heinz Werner Institute provide postdoctoral training. In addition to individually oriented research and training opportunities, seminars are available for postdoctoral students.

THE HEINZ WERNER INSTITUTE FOR DEVELOPMENTAL ANALYSIS

Associated with the department is the Heinz Werner Institute for Developmental Analysis, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; and third, to train research workers on postdoctoral levels in the comparative-developmental approach to behavior. For more information, write to Dr. Seymour Wapner, chair of the Executive Committee.

COURSES

101 GENERAL PSYCHOLOGY/Lecture, Discussion

Introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings.

Staff
Offered every semester

105 QUANTITATIVE METHODS/Lecture

Introduction to the theory and methods of statistical inference, logic of experimental design, and the use of computer statistical packages, e.g. SPSS/X, BMDP.

Mr. Laird, Ms. Azar
Offered every semester

120 HUMAN COGNITION

Introduction to the study of concepts, memory, language, reasoning, and other higher mental processes. The course provides an introduction to the general perspective and current theoretical questions in the field of cognitive psychology concerning those processes/functions, and provides a survey of recent work on those topics. Objectives are to introduce students to the content area regarding the substantive questions, the empirical work, and the theoretical issues; to stimulate students' critical thinking regarding the relation between theory and evidence; to stimulate substantive interest in various questions; and to develop in students a basic literacy in the area as well as the capacity to think further about questions of interest to them in that area.

Ms. Joffe Falmagne
Offered every other year

130 PSYCHOLOGY OF LEARNING/Lecture

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined.

Mr. Stevens
Offered every year

135 THE PARADOX OF ANIMAL SOCIALITY/Lecture

Evaluates a new evolutionary perspective called sociobiology by examining Darwinian theory as it applies to animal social organizations. The course redefines such concepts as natural selection, adaptation, communication, personality, emotions, grouping, and territoriality as they apply to animal behavior. This course is run with much class discussion and emphasis on questioning theories, constructing new models, and arriving at new, clearer definitions. Prerequisite: Introductory biology or psychology normally required, but open to freshmen with special qualifications; please see instructor.

Mr. Thompson

Offered every year

140-141 NEUROSCIENCE I and NEUROSCIENCE II

A two-semester, two-credit course, covering the basic neurosciences and brain/behavior functions. The courses are taught by staff from the Psychology and Biology Departments, and guest lecturers from the University of Massachusetts Medical School and the Worcester Foundation for Experimental Biology, among others. Prerequisites: Psychology 101 and Biology 100 (*General Psychology* and *Introduction to Biology*).

Staff

Offered every year

142 SENSATION AND PERCEPTION/Lecture

The five senses are studied with special emphasis on visual perception. Focus is on the processes by which information is picked up from the environment and then coded, transformed, and integrated by the sensory systems. Topics include: the neurophysiology of each sensory system, feature detectors, pattern perception, perceptual constancies, visual illusions, space perception, and perceptual development.

Ms. Wiser

Offered every other year

150 INTRODUCTION TO CHILD PSYCHOLOGY/Lecture

The development of intellectual and social functioning in the child is discussed. Theoretical approaches to conceptualizing change in the developing child are emphasized and contrasted in light of current studies.

Ms. Uzgis, Mr. Bamberg, Ms. Budwig

Offered every year

155 PSYCHOLOGY AS A HUMAN SCIENCE/Dialogical format

A close examination of attempts by scholars from a wide variety of disciplines (philosophy, history, literature and literary criticism, anthropology, political science, theology, linguistics, semiotics, depth psychology) to describe, understand, and explain complex human action, experience, thought, and production in everyday life. This course is intended to provide a radical alternative to much of current academic psychology, with respect to theories, problems, and methods. Given on a credit/no credit basis. Note: *For Psychology majors*, this course is a prerequisite for upper level psychology courses, 240, 242, 256, 260, 276, 277, 279, 280, 281, and 284. Psychology 101 is *not* a prerequisite for this course or any of the upper level courses listed here.

Mr. Kaplan

Offered every year

156 ADOLESCENCE: CRISIS OR TRANSITION/Freshman Seminar

Developmental and clinical psychologists have engaged in serious discourse over the "normality" of the period called adolescence. Students in this seminar will be exposed to both developmental and clinical theory and research covering selected

issues in adolescent psychology (physiological development, anorexia nervosa, identity development and schizophrenia) with particular focus on the impact of families. Students shall also be exposed to the methods of writing within the field of psychology.

Ms. McGillin

Offered every fall

162 PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR/Lecture, Discussion

Offers students a basis for the understanding and application of psychoanalytic (Freudian) concepts. Students are challenged to interpret simple and complex conflicts in behavior. The course focuses on the way psychoanalysts reason. The final examination requires students to analyze a major literary work from a psychoanalytic perspective. Psychology 101 is *not* a prerequisite.

Mr. Bibace

Offered every semester

170 SOCIAL PSYCHOLOGY/Lecture, Discussion

Contrasts the typical scientific approach to social psychology with a value-oriented approach. Both approaches are applied to understanding the basic processes involved in conformity, love, aggression, group dynamics, and intergroup relations (including community psychology and conflict management). These basic processes are related to the moral choices that confront our society today, such as choices about abortion, capital punishment, gun control, Third World intervention, and the nuclear arms race. In addition to quizzes and a final exam, students are required to undertake two moral actions, one on the personal and one on the political level, and to write short papers evaluating these actions. Psychology 101 is *not* a prerequisite.

Mr. deRivera

Offered every year

172 PSYCHOLOGY OF PERSONALITY/Lecture

Consideration of various theoretical approaches to consistent differences between people, including psychoanalytic, trait, behavioristic, and humanistic theories.

Mr. Laird, Mr. Cirillo

Offered every semester

173 INTRODUCTION TO ABNORMAL PSYCHOLOGY/Lecture

This course begins with a discussion of the manner in which abnormal behavior has been traditionally defined and the implications of these definitions. A comprehensive overview of the major categories of abnormal behavioral disorders is then provided with an emphasis on theory and research (e.g., schizophrenia, affective disorders, substance abuse, eating disorders, etc.). Special attention is paid to issues of assessment, intervention and prevention.

Ms. Azar

Offered periodically

194 LANGUAGE, EMOTIONS, THOUGHT AND CULTURE/Lecture, Discussion

Designed especially for freshmen and sophomores, this course investigates to what degree the human "mind" and the "soul" are sociocultural products and what role language plays in their formation. Specific questions addressed will be to what degree languages differ from one another, whether the mind and emotions are separate faculties, and to what degree they can be viewed as parts of different cultural belief systems. The general aim of the course is to create awareness of cultural differences and commonalities, and to relate this to one's background and heritage.

Mr. Bamberg, Ms. Budwig

Offered periodically

195 PURSUIT OF AN INQUIRY/Seminar

Designed primarily for incoming students, this course provides an opportunity for them to pursue a piece of independent scholarship in the field of their choice. Each must write a substantial term paper by the end of the semester. Class meetings are used to clarify the exposition of ideas and to train the participants in how to exploit the resources of the community for independent scholarship. Papers may be written on any topic the writer pleases. Psychology 101 is *not* a prerequisite.

Mr. Thompson

Offered every year

201 LABORATORY IN SOCIAL PSYCHOLOGY/Laboratory, Discussion

General principles of experimental design are learned through the design and performance of original experiments in experimental social psychology. Both group and individual experiments are conducted in any of the usual topic areas of social psychology. Prerequisites: Psychology 170, 105, and permission of the instructor.

Mr. Laird

Offered every year

202 LABORATORY IN DEVELOPMENTAL PSYCHOLOGY/Laboratory, Discussion

A general introduction to conceptual issues related to research in the area of human development. Students will participate in group research projects involving both observational and experimental techniques and will receive training in all phases of research including formulating research questions, data collection and analysis, and report writing. Prerequisites: Psychology 105, 150.

Ms. Budwig

Offered every other year

203 LABORATORY IN HUMAN COGNITION/Laboratory, Discussion

Experimental studies are conducted in the area of reasoning, categorization, language comprehension, learning, and memory. This course familiarizes students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. The course is designed to teach skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105, 120. (Psychology 120 can be taken the same semester as the lab.)

Ms. Joffe Falmagne

Offered every other year

204 LABORATORY IN EMOTION AND MOTIVATION/Laboratory, Discussion

Includes the design of studies to test ideas about emotions and how they influence our actions, the gathering of data, and ways to report the data to the psychological community. Prerequisite: Psychology 105.

Mr. deRivera

Offered every other year

205 LABORATORY IN CHEMICAL SENSES/Laboratory, Discussion

Concepts of experimental design and method are discussed. Experiments are conducted on the scaling of taste, smell, and flavor. Examples are comparison of the sweetness and pleasantness of different sugars, and determination of the role of odor in flavor perception. Prerequisite: Psychology 105.

Mr. Stevens

Offered every year

206 LABORATORY IN PERSONALITY/Laboratory, Discussion

The issues and problems in psychological research in general and in the personality area in particular are examined, with the problems being exemplified in studies

developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such as perceptual defense, motives and performance, self-perception, experimenter influence, and emotions. Prerequisites: Psychology 105; 170 or 172; and permission of the instructor.

Mr. Laird, Mr. Wiener

Offered every year

207 LABORATORY IN PERCEPTION/Laboratory, Discussion

A few topics in visual and auditory perception are selected for in-depth examination. Building on knowledge acquired in Psychology 142, students perform experiments, some of them original. Emphasis is on the connections between theories and experiments, research methods, data interpretation, and scientific writing. Prerequisite: Psychology 105, 142 and permission of the instructor.

Ms. Wiser

Offered every year

208 LABORATORY IN CHILD PSYCHOLOGY/Laboratory, Discussion

An introduction to research methods employed in the study of children through participation in studies carried out by the class. Analysis and write up of results is done individually. Relevant theoretical and methodological issues are discussed with the aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105, 150.

Ms. Uzgis

Offered every other year

209 LABORATORY IN STUDENT ADJUSTMENT TO COLLEGE/Laboratory

The rationale, method, and findings of an ongoing research project at Clark investigating personality and environmental determinants of adjustment to college, with consideration of similar research elsewhere as reported in the professional literature. Relevant issues in personality measurement are addressed, and each student develops and carries out an empirical investigation relevant to the course topic. Prerequisites: Psychology 105, 172 and permission of the instructor.

Mr. Baker

Offered every semester

210 LABORATORY IN LANGUAGE AND COMMUNICATION/Laboratory, Discussion

A general introduction to conceptual issues related to research in the area of language and communication. Students will participate in group research projects involving both observational and experimental techniques and will receive training in all phases of research including formulating research questions, data collection and analysis, and report writing. Prerequisites: Psychology 105, and 120 or 194

Mr. Bamberg

Offered every other year

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING/Laboratory, Discussion

The illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting is observed. Special consideration is given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students carry out field observations and formulate and execute their own individual projects. Prerequisites: Psychology 105 and permission of instructor.

Mr. Zern

Offered every year

212 LABORATORY IN GENERAL PSYCHOLOGY/Laboratory, Discussion

Students will develop skills investigating various aspects of human behavior and experience. NO PREREQUISITES other than Psychology 101 and 105 and a

willingness to bring good questions to the laboratory. Permission of the instructor is required.

Mr. Thompson

Offered periodically

213 LABORATORY IN GROUP DYNAMICS/Laboratory, Discussion

This course investigates the conditions that promote caring and reduce fear in interpersonal and group dynamics. Each student is responsible for leading weekly meetings of one of the discussion groups in 170 (*Social Psychology*). During these meetings we will be measuring the effects that different "exercises" have on our ability and desire to assert ourselves and to care for others. Prerequisite: Psychology 105, 170, and permission of the instructor.

Mr. deRivera

Offered every year

215 RESEARCH IN EMOTION AND MOTIVATION/Laboratory, Discussion

Working in close collaboration with the instructor, students design, conduct, and present a piece of research that investigates an emotional or motivational phenomenon. Prerequisites: Psychology 204 or permission of instructor.

Mr. deRivera

Offered every other year

216 RESEARCH IN STUDENT ADJUSTMENT TO COLLEGE/Laboratory, Discussion

Supervised individual participation in an ongoing research project at Clark investigating personality and environmental determinants of adjustment to college. Prerequisites: Psychology 209 and permission of instructor.

Mr. Baker

Offered every semester

217 RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD/Laboratory, Discussion

With roots in Piaget's theories, a constructivist-interactionist approach to the study of development in infancy and early childhood is exemplified through the findings and problems from ongoing research projects. Students each formulate a pertinent study, carry it out, and prepare papers describing their work. Prerequisite: Psychology 208 or another laboratory course.

Ms. Uzgis

Offered every year

220 RESEARCH IN CHEMORECEPTION/Laboratory, Discussion

Students design, conduct, and interpret research in taste, smell, and flavor. Prerequisite: permission of instructor.

Mr. Stevens

Offered every year

221 RESEARCH IN SOCIAL PSYCHOLOGY/Laboratory, Discussion

Students participate in the design, execution, analysis, and interpretation of research on self-awareness and self-knowledge, including areas of emotions, attitudes, and abilities. Prerequisites: previous courses in social psychology and statistics, at least one laboratory course, and permission of the instructor.

Mr. Laird

Offered every year

222 RESEARCH IN CONCEPTUAL DEVELOPMENT/Laboratory, Discussion

Students participate in an ongoing research program in collaboration with the instructor in the area of conceptual development. Enrollment limited. Prerequisite: permission of the instructor.

Ms. Wiser

Offered periodically

224 RESEARCH ON NARRATIVE DEVELOPMENT/Laboratory, Discussion

This course is designed to give students a training experience in an ongoing research project on the development of narratives. Data will be gathered and analyzed according to the causal structure of the events presented in a story to children and according to the protagonist's internal responses at instances crucial versus non-crucial to the story structure.

Mr. Bamberg

Offered periodically

225 RESEARCH IN FAMILY AND CHILD/Laboratory, Discussion

Working in close collaboration with the instructor, students participate in ongoing research projects examining family issues either with children, adolescents or parent-child dyads. The research takes place within a cognitive behavioral framework. Students, through group and individual discussions with the instructor, develop a question on which they would like to focus, design and conduct a study, and write up their results. Prerequisite: permission of the instructor.

Ms. Azar

Offered every year

226 RESEARCH IN PERCEPTION/Laboratory, Discussion

Students participate in an ongoing research program in collaboration with the instructor in the area of perceptual processing and the components of perceptual development. Enrollment limited. Prerequisite: Psychology 142 and permission of the instructor.

Ms. Wiser

Offered periodically

228 RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENTS/Laboratory, Discussion

Theory, findings, and research problems deriving from an ongoing research program—an organismic-developmental systems approach to the analysis of transactions of persons-in-environment—are discussed. Empirical studies on problems relevant to the research program are formulated and conducted by individual students. A research proposal and final report describing the research project are prepared. Ideally, the research is presented at undergraduate or professional meetings, and a manuscript is prepared for submission to a journal. Prerequisites: Psychology 105 and permission of instructor.

Mr. Wapner

Offered every semester

229 RESEARCH IN THE DEVELOPMENT OF LANGUAGE/Laboratory, Discussion

In collaboration with the instructor, students participate in an ongoing research program in the area of language development. Students will be responsible for various phases of research, including preparing literature surveys, data analyses, and interpretation of results. Towards the end of the semester, students will prepare a written paper describing their work. Prerequisite: permission of instructor.

Ms. Budwig

Offered periodically

235 SOCIAL DEVELOPMENT/Seminar

Focus is placed on the study of processes of socialization. Beginning with a critical examination of the historical development of theories and methods underpinning socialization research, the course will also focus on particular topics including attachment, the development of the self, perspective-taking, and moral development. Prerequisite: Psychology 150.

Ms. Budwig

Offered periodically

240 DEVELOPMENTAL APPROACHES TO BEHAVIOR/Seminar

A critical examination of the presuppositions, methods, and empirical inquiries of those concerned with the developmental analysis of diverse kinds of behavioral systems or aspects of systems. Implications of developmental conceptualization for all of the life sciences are discussed. The course also focuses on recent critiques of developmental theories in general (e.g., Foucault, Derrida, Kaplan) as well as critiques (e.g., Carol Gilligan) of specific developmental approaches. Accessible to juniors, seniors, and graduate students. Enrollment limited. Prerequisites for undergraduates: Psychology 155 and permission of instructor. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered periodically

241 COGNITIVE STUDIES OF MIND/Seminar

Focuses on several topics having to do with the workings of the human mind (e.g. Do we use mental images in thinking? To what extent are we rational beings? How is our conceptual knowledge organized?) as they have been studied by cognitive psychologists, philosophers, linguists, cognitive anthropologists, and those in other disciplines. In addition to discussion of theories and issues about each of the topics, the course also will examine how psychology, philosophy, linguistics, anthropology, and artificial intelligence can contribute to our understanding of the human mind. The seminar introduces students to the rapidly developing area of interdisciplinary study of mind known as cognitive science, provides familiarity with the framework and basic concepts of that approach, and provides in-depth discussion of some substantive topics of interest. The selection of specific topics discussed is flexible, to accommodate students' interests. Mostly readings and class discussions, with informal introductions to each topic discussed. Prerequisite: Psychology 120 or permission of instructor.

Ms. Joffe Falmagne

Offered every other year

242 PSYCHOLOGY OF LANGUAGE/Seminar

A social-psychological, anthropological, and rhetorical consideration of the various functions of language in human behavior. Deals with the ways in which the linguistic system is used as symbolic action in everyday life, poetry, dreams, and social movements. Also examined are various views concerning the relations between language and thought, language and action, language and knowledge, and language and politics. Open to juniors and above. Enrollment limited. Prerequisite for undergraduate psychology majors: Psychology 155. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered periodically

243 SEMINAR IN PHENOMENOLOGICAL PSYCHOLOGY/Seminar

Describes and analyzes personal experience. Each of the readings describes a different aspect of experience. These are then compared with our own experience of our body, our environment, ourself, others, our emotions, actions, and thoughts, and with our imagination and our relationship to reality.

Mr. deRivera

Offered every other year

245 DEVELOPMENT IN INFANCY/Seminar

Current research on human infants is examined, with emphasis on relations between functioning during this period and later in ontogenesis. A view of the child as an organized adaptive system is emphasized. Topics to be considered include learning, intellectual functioning, social relationships, and the beginnings of language. Some consideration is given to deviations from normal development. Prerequisite: permission of instructor.

Ms. Uzgoris

Offered every other year

246 PSYCHOLOGY OF PEACEMAKING/Seminar

An examination of the literature on nuclear anxiety and numbing, the motivation of peace activists, conflicts within the peace movement, and the development of a commitment to achieving world peace and justice. Students in this seminar must audit the lectures given in *Introduction to Peace Studies* (Government 111, Sociology 111). Prerequisite: Psychology 105, 170.

Mr. deRivera

Offered periodically

248 CONCEPTS IN THEORIES OF PERSONALITY—NORMAL AND ABNORMAL/Seminar

Considers and analyzes: (1) concepts and issues in theories of personality and (2) concepts used to account for deviant behavior.

Mr. Wiener

Offered every other year

249 WOMEN IN SOCIETY/Seminar

Includes three related parts: (1) *the context*, including a cross-cultural, anthropological examination of women's cultural status in society; a study of the economic, historical, and environmental factors impinging on the individual (language, media, literature, cultural institutions); and a discussion of the role of biological factors in psychological functioning; (2) *individual functioning*, covering such topics as personality development, life issues of women, achievement, motivation, intellectual functioning, and power; (3) *women's roles and functions in society*, including mothering, work, professional careers, homemaking, politics, and issues relating to role choices and adult development. Objectives are: (a) to promote a broadly based understanding of the cultural, historical, economic, and environmental factors affecting women's development and functioning; (b) to equip students to pursue informed discussions and critical thinking on related issues. Discussions of interactions between cultural, social, psychological, and biological factors are emphasized; extensive bibliographical references are provided.

Ms. Joffe Falmagne

Offered every other year

250 COMMUNICATION: VERBAL AND NONVERBAL/Seminar

Deals with: (1) an analysis of the term communication and (2) a study of the varieties of communication patterns for different populations.

Mr. Wiener

Offered every year

251 LANGUAGE DEVELOPMENT/Seminar

A comprehensive survey of the basic issues and topics involved in the study of language development. The course will begin with an examination of the structure of language and the varied uses of language in human activity. Against this background the course will turn to the question of how children acquire language, with special emphasis on the contributions of cognitive, social, and language-specific factors in this process. Prerequisite: Permission of instructor.

Mr. Bamberg, Ms. Budwig

Offered every other year

253 NARRATIVE DISCOURSE/Seminar

Relates linguistic, cognitive, and social/cultural factors involved in narrative activities such as telling stories, giving testimonies, route descriptions, etc. Special emphasis is given to the study of narratives from developmental perspectives. Prerequisite: permission of instructor.

Mr. Bamberg

Offered periodically

254 INTERPRETATION OF BEHAVIORS TRADITIONALLY SUBSUMED BY ABNORMAL PSYCHOLOGY"/Seminar

Behaviors such as schizophrenia, depression, hysteria, obsession, and antisocial personality are examined. The goal is to articulate multiple theoretical and relational perspectives regarding what is referred to as "abnormal," assumptions regarding how "abnormality" comes about, methods of treatment, and the assumptions which lie behind them. Students participate in the clinician's "world of action." Students observe, describe, interpret, and prescribe courses of action for sample "cases," which fall within various "abnormal" categories. Prerequisite: Psychology 172 and permission of instructor.

Mr. Bibace

Offered every year

256 THE PSYCHOLOGY OF LOVE AND HATE IN LIFE AND LITERATURE/Dialogical Lecture

An examination, via reading and discussing short stories, as well as critical scrutiny of various theories, of the diverse manifestations of love, hate, and kindred emotions in everyday life. The relations of emotional life to attitudes and actions are considered throughout the life span and in social-collective phenomena, as well as psychopathology. Enrollment limited. Prerequisite: Psychology 155 and permission of instructor.

Mr. Kaplan

Offered every other year

257 SEMINAR IN FORENSIC PSYCHOLOGY

The seminar is designed to examine the conflicts which inherently arise between the clinical mental health professions and the criminal justice system. Beginning with contrasting assumptions about human behavior, i.e., determinism versus free will, the course deals with the psychological and legal issues involved in matters such as: the "insanity" defense, the validity of predictions of dangerousness, involuntary commitments to mental hospitals, the right to receive treatment versus the right to refuse it, and the assessments of competence, informed consent, and passive dangerousness. Requirements include class discussions, a critical paper, and a final examination. Prerequisite: permission of the instructor.

Mr. Finkel

Offered periodically

258 INTERPRETATION OF BEHAVIOR IN EVERYDAY LIFE/Seminar

This course focuses on learning to apply general psychological principles to complex, everyday behaviors. Behaviors portrayed in movies, novels, newspaper accounts, etc., will be examined. The objective is to help students learn to describe and interpret behaviors in a coherent manner. The assumptions (epistemological, ethical, political and social) which underlie their interpretive framework will be emphasized.

Mr. Bibace

Offered periodically

259 PSYCHOTHERAPIES/Seminar

A variety of methods of curing symptoms, solving problems in living, and promoting personal development are considered through class discussion and illustration and through intensive reading of primary sources. Grade depends on written papers as well as class discussion. Prerequisites: Psychology 172 and permission of instructor.

Mr. Cirillo

Offered every year

260 INTERPRETATION OF DREAMS AND OTHER PRODUCTS OF THE IMAGINATION/Seminar

Deals with the exposition, application, and critical evaluation of various systems for

the interpretation of dreams and other products of the imagination (poetry, art, mythology). Included for examination are the theories of Freud, Jung, Boss (phenomenological), May (existential), and Burke/Kaplan (genetic-dramatism). Problems of validity of interpretation are discussed, and the relation of dream interpretation to the interpretation of other products of the imagination is examined. Open to juniors, seniors, and graduate students. Prerequisite: Psychology 155 and permission of instructor. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered every other year

261 HUMAN NEUROPSYCHOLOGY, PARTS I and II/Lecture, Discussion

Approximately ten prominent lecturers review and discuss current research. Topics include overview of brain organization, brain electrical potentials, cerebral dominance, neuroanatomy and pathology of language, bilingualism, emotion, and psychosurgery. Yearlong course; divisible. Open to advanced undergraduates and graduate students.

Ms. Oscar-Berman, Ms. Kaplan

Offered every year

263 PERCEPTUAL DEVELOPMENT/Seminar

Addresses the development of visual, auditory, tactile, and kinesthetic abilities during the first two years of life, with special emphasis on visual development. Topics include anatomical and neurophysiological development of sensory systems, space perception, object perception, speech perception, face perception, formation of perceptual categories, and intersensory integration. Several theoretical viewpoints are studied: Gestalt psychology, E. Gibson, Piaget, and T.G. Bower. The questions raised throughout the course include what components of perception are innate, and what components result from maturation, from experience, or from an interplay between genetic and experiential factors? Prerequisite: permission of instructor.

Ms. Wiser

Offered every other year

267 BIOLOGICAL DETERMINISM AND BEHAVIOR/Seminar

Beginning with the deterministic conceptions of its participants, this course explores some intellectual history and contemporary data concerning the idea that behavior is determined by evolutionary history and necessity. Limited to twenty students.

Mr. Thompson

Offered every year

268 COMMUNICATIVE DEVELOPMENT/Seminar

Focuses on various approaches to an understanding of human communication from an interdisciplinary perspective. The course will explore the relationship between social, cognitive, and linguistic factors in children's communicative development. Prerequisite: permission of instructor.

Ms. Budwig

Offered periodically

269 MOTIVATION/Seminar

The concept of motivation is examined. Several theoretical models are discussed, including those of psychoanalytic, ethological, and learning theories. Each member of the class makes an oral presentation and submits a paper.

Mr. Stevens

Offered every year

270 ADVANCED TOPICS IN SOCIAL PSYCHOLOGY/Seminar

An intensive treatment of selected areas in social psychological research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; and social/situational determinants of normal,

everyday behavior and of antisocial behaviors such as violence, criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor.

Mr. Laird

Offered every other year

271 THEORIES OF FAMILY PROCESSES/Seminar

This course is designed to expose students to the major theories of family processes (e.g., biological, psychodynamic, family life cycle, structural, and behavioral views). Particular emphasis is placed on how the family as a system responds to stress, such as developmental shifts in its members, illness, and psychological disorder. Film and literature portrayals of families are utilized by students to demonstrate their understanding of the various models presented. Prerequisite: permission of instructor.

Ms. Azar

Offered every year

272 FAMILY HEALTH: A BIOPSYCHOSOCIAL APPROACH/Seminar

A biopsychosocial approach to family health which attempts to transcend traditional mind/body and person/family boundaries, this course focuses on contextual approaches to health care, emphasizing collaborative professional models in the interrelationship of psychosocial and biomedical domains. Course will review biological predispositions to *health* and *disease*, individual psychological factors (e.g., vulnerabilities to stress and coping strategies) in health and illness, and familial factors contributing to roles of "sickness" and "wellness" within a family. The "health care systems" in America and Britain will be compared with respect to the sociocultural *values* which underlie "*rationing*" of health care in both countries. Ethical issues, exacerbated by "rationing" for citizens, clinicians and scientists will be stressed. Prerequisite: permission of the instructor.

Mr. Bibace

Offered periodically

273 CRITIQUE OF PSYCHOLOGICAL THEORIES AND APPROACHES TO SOCIAL SCIENCE/Seminar

A systematic critique of various approaches to an understanding of human behavior and the functioning of the human mind that are operative on the current scene. The approaches examined include psychoanalysis, sociobiology, Piagetian theory, cognitive science, and phenomenological psychology. Open to seniors and graduate students. Enrollment limited. Prerequisite: permission of instructor and Psychology 155 for undergraduate psychology majors. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered periodically

276 SYMBOLISM IN EVERYDAY LIFE: MYTH, DREAM, AND SYMBOL/Seminar

A close examination of the processes of symbol formation and symbol interpretation in everyday life activities, in social and religious myths, and in dreams and literature. Both cultural and individual manifestations of symbol formation are examined, and various frameworks for the interpretation of symbols are critically discussed. Open to seniors and graduate students. Enrollment limited. Prerequisite: permission of the instructor and Psychology 155 for undergraduate psychology majors. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered periodically

277 THE CREATIVE PROCESS/Seminar

A critical examination of a number of attempts, in the humanities and human sciences, to describe and/or explain manifestations of creativity in the arts, sciences, and other domains. Major focus is on the factors presumably constituting the

creative act, or inherent in creative functioning. Subsidiary attention is paid to conditions in the cosmos, society, or the personality structure supposedly facilitating or inhibiting creative functioning. Among the theorists considered are philosophers such as Aristotle, Kant, Hegel; critics such as Coleridge, K. Burke, A. Koestler; psychoanalysts of various persuasions and degrees of clarity, such as Freud, Kris, Rybroft, Jung, Neumann, Arieti, et al.; and psychologists from various schools. Enrollment limited. Prerequisite: permission of instructor and Psychology 155 for undergraduate psychology major. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered periodically

278 COGNITIVE DEVELOPMENT FROM INFANCY TO ADOLESCENCE/Seminar

Focuses on an examination of selected research studies and theoretical accounts of concept development, memory, and reasoning, with special emphasis on Piagetian and Soviet perspectives. Prerequisites: permission of instructor.

Ms. Uzgirls

Offered periodically

279 DEVELOPMENT OF CONSCIOUSNESS/Seminar

Designed to examine critically various esoteric views concerning the development of consciousness (mind) and stages of consciousness, and to compare and contrast these views with those prevailing in current academic psychology under the titles of personality development and cognitive development. Among the views considered are those deriving from Eastern thought (Vedas, Yoga, Buddhism), Near Eastern thought (Sufiism, Gurdjieff-Ouspensky, Erica) and Western religious and philosophical thought. Among the current views with which these are compared and contrasted are those of Freud, Jung, Piaget, and Werner in psychology, and Cassirer in philosophy. Prerequisite for undergraduate psychology majors: Psychology 155. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered periodically

280 DEPTH PSYCHOLOGY, DEVELOPMENTAL THEORY, AND THEORY OF INTERPRETATION, PART I/Seminar

A critical examination—in light of current views on the nature of interpretation and the nature of signs and symbols—of various conceptions of human development advanced by a variety of thinkers. Although there will be a special emphasis on “depth developmental psychologies” (e.g., Freud, Jung, and their disciples and followers), consideration also is given to the developmental perspectives of Piaget, Werner, and Vygotsky. Focus is on the extent to which conceptions of development, descriptions of development, and “explanations” of development are rooted in tacit commitments of the various theorists to unexamined dogmas as to the nature of reality, the place of mind in nature, the order of values, and the bases for interpretation of signs and symbols. Among the hermeneuticists and semioticians whose work is examined are Cassirer, Gadamer, Ricoeur, Burke, and Culler. Two-semester course. Prerequisite: permission of the instructor. Psychology 101 is *not* a prerequisite.

Mr. Kaplan

Offered every other year

281 DEPTH PSYCHOLOGY, DEVELOPMENTAL THEORY, AND THEORY OF INTERPRETATION, PART II/Seminar

Continuation of Psychology 280. Prerequisite: Psychology 280.

Mr. Kaplan

Offered every other year

283 HISTORICAL BACKGROUND OF CONTEMPORARY PSYCHOLOGY/Seminar

Includes an appreciation of the generative ideas and world hypotheses underlying contemporary psychological approaches and traces the earlier manifestations of these ideas and world hypotheses in intellectual history or history of ideas. Psychology 101 is *not* a prerequisite. Permission required.

Mr. Kaplan

Offered every other year

284 PSYCHOLOGY AND RELATED DISCIPLINES/Seminar

Deals with the linkages or purported linkages between psychology and literature, psychology and art, psychology and law, psychology and religion, psychology and philosophy, etc. Designed to deal with the two-way relations between various disciplines and psychology and the challenges that these paired disciplines pose for each other. Prerequisites: permission of instructor.

Mr. Kaplan

Offered periodically

285 EMOTION AND INTERPERSONAL RELATIONSHIPS/Seminar

What are emotions and how do they affect our behavior and our relationships? The course examines a number of theories about different emotions and our relations with others. Prerequisite: permission of the instructor.

Mr. deRivera

Offered every other year

286 CROSS-CULTURAL PERSPECTIVES ON HUMAN DEVELOPMENT/Seminar

Studies of perception, cognition, social relations, and moral reasoning in contrasting cultural environments, especially during childhood, are examined with a view toward clarifying the role of cultural specificity in the development of human competence. Learning about the cultural diversity of childhood is undertaken to facilitate discussion of several conceptions of the impact of cultural context on human functioning. Prerequisite: permission of the instructor.

Ms. Uzgiris

Offered every other year

287 SELECTED PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY/Seminar

An advanced seminar course that discusses contemporary issues in physiological psychology. In some cases recent theoretical advances are the focus of the seminar, while in other cases, new research methodologies may be the focus. The course is designed in collaboration with the students and with the goal of keeping them abreast of the latest developments in neuroscience and psychobiology.

Staff

Offered periodically

288 LOGICAL COGNITION IN ADULTS AND CHILDREN/Seminar

Covers in depth the current theoretical developments and empirical findings in the areas of logical reasoning in adults and children, especially in linguistic contexts. The course examines the extent to which logical principles are known by adults and children, the way in which that knowledge is represented mentally, and the way in which it may be acquired. The relations between logical development and language development are discussed. The contrasts and connections with the Piagetian perspective are discussed. The aim of the course is to enable students to continue reading on their own in these areas after this introductory background. Prerequisite: permission of instructor. Limited to ten students.

Ms. Joffe Falmagne

Offered every other year

289 MIND IN A SOCIOCULTURAL CONTEXT/Seminar

This is a course designed to explore the ways in which historical, cultural, and institutional settings shape and are shaped by psychological processes. The focus

will be on the comparative analysis since this provides one of the best ways to understand the role of the types of settings of interest. Analyses will be made of ways in which theoretical approaches, as well as subjects of studies, reflect sociocultural settings. Special emphasis will be given to ideas from the sociocultural approach developed by Vygotsky and other related theorists. Open to seniors. Prerequisite: permission of instructor.
Mr. Wertsch

Offered periodically

298 SUPERVISED PRACTICUM AND DIRECTED READINGS IN USE OF PSYCHOLOGICAL KNOWLEDGE AND METHODS IN PRACTICAL SETTINGS/Practicum

Supervised practical experience in a work setting relevant to a topic selected by the student from the subject matter of a psychology course taken previously, with associated bibliographical research. Only one practicum course credit can be applied to the major. May substitute in the major for one of the two required upper level seminars (in the 240-289 range). Evaluation principally on basis of term paper integrating relevant literature and practicum observations. Enrollment must be approved by course coordinator in advance of registration.
Mr. Baker, Coordinator; Staff

Offered every semester

299 HONORS IN PSYCHOLOGY: SENIOR YEAR/Tutorial

Students carry out a research project under the direction of a member of the staff. Prerequisite: permission of department.
Staff

Offered every semester

2991 DIRECTED RESEARCH IN PSYCHOLOGY/Tutorial

An independent study for qualified students not in the Honors Program. Prerequisite: permission of instructor.
Staff

Offered every semester

2992 DIRECTED READINGS IN PSYCHOLOGY/Tutorial

An independent study for qualified students not in the Honors Program. Prerequisite: permission of instructor.
Staff

Offered every semester

300 PROSEMINAR: DEVELOPMENTAL PSYCHOLOGY

Devoted to the presentation and critique of different developmental approaches to the individual and his/her ways of functioning in the world. The approaches considered may include: (1) Piagetian, (2) organismic-developmental, (3) Soviet approaches to psychology, (4) Freudian and neo-Freudian, and (5) contrasting nativist or information-processing views. The aim is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It thus provides a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language, and the process of thinking). Several faculty members participate in conducting the seminar.
Mr. Damon, Ms. Uzgiris,
Ms. Wiser, Mr. Kaplan, Mr. Wertsch, Mr. Bamberg, Ms. Budwig

Offered every other year

301 PROBLEM, THEORY, AND METHOD IN PSYCHOLOGY/Seminar

During the first half of semester one, each faculty member meets once with the class to discuss his/her perspectives and research. Students prepare brief reports characterizing the links among each faculty member's perspective, research, problems, methods, as well as a paper summarizing or integrating all of the faculty

perspectives. Students also submit a brief statement on the status of their own research. During semester two, the ethics of the research process are discussed. Students formulate proposals on their master's theses and other research. Constructive criticism of these research proposals is offered by other members of the seminar. At the end of semester two, students submit their research proposals and written reports, which cover the status of their research.

Staff

Offered every semester

302 STATISTICAL METHODS/Seminar

The first semester is devoted to a review of the basic concepts of statistics, such as probability, statistical inference, sampling distribution, t-test and regression, and to nonparametric statistics. The second semester introduces analysis of variance and experimental design.

Ms. Wiser

Offered every year

305 ADVANCED TOPICS IN COMMUNICATION/Seminar

Various theories of human communication will be critically examined. Special emphasis is placed on theoretical and methodological issues involved in the study of how meaning is established in social interaction. Specific topics will vary from year to year depending on participants' current research interests.

Ms. Budwig

Offered periodically

308 BASIC PROCESSES IN SOCIAL PSYCHOLOGY/Seminar

An examination of the most recent literature on the processes involved in aggression, attitude-change, commitment, community, group identification, and intergroup relations. Particular attention will be paid to cultural differences.

Mr. deRivera, Mr. Laird

Offered every other year

310 PSYCHOPATHOLOGY OF CHILDHOOD AND ADOLESCENCE/Seminar

Focuses on the origins and course of behavioral maladaptation during the first two decades of life. Problems of assessing and treating psychological disorders are viewed from a developmental perspective, with connections being drawn between normal and abnormal growth processes. In particular, pathological symptomology is related to developmental issues such as early biological regulation, attachment, the family context, peer relations, intellectual development, self-control, sex-role differentiation, and personal efficacy. Selected topics include childhood depression, schizophrenia, eating disorders, borderline states, aggressive and other emotional disturbances, and learning disabilities.

Mr. Damon

Offered periodically

311a ADULT ASSESSMENT/Practicum

Ms. Kellett

Offered every year

311b MEASUREMENT, ASSESSMENT AND THERAPY/Practicum

Mr. Cirillo

Offered every year

312 PSYCHOPATHOLOGY/Seminar

Theories of psychopathology are examined. Specific phenomena (traditionally called "syndromes") that illustrate general theoretical presuppositions to diagnostic and therapeutic issues in different historical eras are discussed.

Mr. Bibace

Offered every other year

314 THEORIES OF LANGUAGE DEVELOPMENT/Seminar

Beginning with an examination of the structure of language and the varied uses of language in human activity, the course critically examines major theories of how language is acquired by children. Approaches considered may include: (1) nativist, (2) cognitive interactionist, (3) social interactionist, and (4) functionalist. The aim of this seminar is to enable students to integrate current research in the area of language acquisition with developmental theorizing.

Mr. Bamberg, Ms. Budwig Offered periodically

315 IMITATION, INTERNALIZATION, IDENTIFICATION/Seminar

Concerned with processes involved in self-other differentiation and the influence of significant others in the construction of the self. The writings of J.M. Baldwin, J. Piaget, G.H. Mead, L. Vygotsky, R. Schafer, M. Mahler, and J. Macmurray pertaining to these processes are discussed and relevant research evidence is considered.

Ms. Uzgis Offered every other year

316 SENSORY PROCESSES AND PSYCHOPHYSICS/Seminar

Psychophysical concepts and methods are discussed, including magnitude estimation and multidimensional scaling. Particular attention is paid to those concepts and methods relevant to studies of taste, smell, and flavor.

Mr. Stevens Offered periodically

317 BEHAVIOR IN INFANCY/Seminar

Proceeds from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the way infants organize their functioning in the world. Different topics are chosen for an in-depth examination in different years.

Ms. Uzgis Offered every other year

318 PIAGET'S THEORY/Seminar

The basic concepts in Piaget's theory of development are critically studied through intensive reading of a selection of his writings. The historical roots of Piaget's concepts as well as their use by him throughout his lifetime are considered. The aim of the course is not familiarization with any particular topic studied by Piaget, but an in-depth examination of some of his theoretical ideas

Ms. Uzgis Offered every other year

319 GENETIC-STRUCTURAL APPROACH TO MENTALITY/Seminar

Devoted to demonstrating how genetic structural approaches, viz., those of Marx, Freud, Jung, Cassirer, Werner, Piaget, and others, deal with the analysis of mentality as revealed in collective and individual activity. Special emphasis on the categories basic to all genetic structural approaches.

Mr. Kaplan Offered periodically

320 NONVERBAL AND VERBAL BEHAVIORS AND COMMUNICATION/Seminar

This seminar covers three areas: (1) distinction between behavior and communication in verbal and nonverbal events; (2) analysis of pattern of language as a source of data; (3) applicability to interview and psychotherapy.

Mr. Wiener Offered periodically

321 TOPICS IN DISCOURSE ANALYSIS/Seminar

In the first part of the semester we will explore the basic question of how coherence in the monologue (life stories, reports of particular events, route description, etc.)

as well as multi-party interactions is achieved. In the second part of the semester we will apply some of these issues to ongoing research projects.

Mr. Bamberg

Offered periodically

322 PSYCHOLOGY OF LEARNING/Seminar

Theories, methods, and findings in the psychology of learning are discussed. Attention is given to controversial issues in discrimination learning.

Mr. Stevens

Offered periodically

324 ISSUES IN THEORIES OF PERSONALITY/Seminar

Covers three areas: (1) discussion of general issues in "theories" of personality, (2) further consideration of some issues in different theories (e.g., Freud), and (3) presentation and discussion of one alternative framework.

Staff

Offered every other year

326 ADVANCED TOPICS IN SOCIAL AND PERSONALITY DEVELOPMENT/Seminar

Focus is on the complementary processes of socialization and individuation through the life span. The individual's modes of relating to others and of constructing the self are traced through each phase of life. Developmental connections are drawn between early social relations and later social and personal experience.

Mr. Damon

Offered every other year

327 MORAL DEVELOPMENT/Seminar

The classical and contemporary approaches to the development of moral judgment and conduct in the individual are studied. Emphasis is on new and future directions for research in this area.

Mr. Damon

Offered periodically

328 SOCIAL COGNITION/Seminar

Focuses on contemporary approaches to the study of social reasoning in children, adolescents, and adults. Emphasis is on the individual's developing knowledge of interpersonal relations, the self, and other persons. Recent theoretical and empirical work is considered.

Mr. Damon

Offered every other year

331 CHILD ASSESSMENT/Practicum

Devoted to clinical experiences primarily with children. This includes intelligence and projective testing, diagnostic interviewing, and play therapy with children.

Mr. Ciotton

Offered every year

332 THEORIES OF PSYCHOTHERAPY/Seminar

A comparison of various theoretical approaches to psychotherapy is considered.

Staff

Offered every year

333 NEUROPSYCHOLOGICAL ASSESSMENT/Practicum

An overview of the structure and function of the central nervous system is presented. Emphasis is on quantitative and qualitative analyses of standardized and experimental tests of cognitive functions useful in differential diagnosis of neurological syndromes.

Ms. Kaplan

Offered every year

335 SOCIAL EVOLUTION/Seminar

An ongoing colloquy on the evolutionary perspective (in the broadest sense) designed for graduate students in psychology, biology, and geography. Each year the participants agree on a conceptual problem they want to explore during the sessions of the seminar. In recent years, sample problems have included the possible significances of sociobiology to contemporary psychology, naturalism in psychology, neo-Lamarckian approaches to evolutionary theory, the concept of levels of analysis, and dialectical approaches to the evolution of a humane society. Interested graduate students should contact the instructor so that topics can be decided and reading materials can be made available.

Mr. Thompson

Offered every other year

338 SELF-CONCEPT AND SELF-PERCEPTION/Seminar

An examination of research and theory on attributions to self and others and their relationship to action.

Mr. Laird

Offered periodically

339 THE EFFECTS OF EARLY EXPERIENCE/Seminar

An examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis in the course of perceptual, cognitive, and motivation development aimed at conceptualizing these effects within a coherent framework. Evidence from studies of animals and humans is considered.

Ms. Uzgiris

Offered periodically

340 EMOTION AND INTERPERSONAL RELATIONS/Seminar

Uses our knowledge of various emotional transformations (e.g., changes in self-boundary) to develop a precise language for the description of interpersonal phenomena such as merger-separation, dynamics, identification, and the dynamics of family constellations.

Mr. deRivera

Offered every other year

343 CHEMORECEPTION/Seminar

Selected current topics in taste and smell are examined.

Mr. Stevens

Offered periodically

350 CONSULTING/Practicum

Staff

Offered every year

351 FAMILY AND COUPLE THERAPY/Practicum

Practicum training in some special area, e.g., child clinical, family interactions, human neuropsychology. For third- or fourth-year clinical students

Ms. Azar

Offered every semester

352 EXTERNSHIP/Practicum

For third- or fourth-year clinical students.

Staff

Offered every semester

353 THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION/Practicum

Mr. Peterson

Offered every year

357 SYMBOLIZATION AND SYMBOLIC ACTION/Seminar

Focuses systematically, and in detail, on one or more of the major approaches to symbolism, symbolization, and symbolic action. The approaches, considered from

time to time, include those of Freud and the psychoanalysts; that of Jung and his followers; those of philosophers, such as Ernst Cassirer and Paul Ricoeur; anthropologists such as Victor Turner, Edmund Leach, or Clifford Geertz; literary critics such as Kenneth Burke, Northrop Frye, or Frederic Jameson; semioticians such as Roland Barthes or Umberto Eco; and psychologists such as Werner and Kaplan. On the next occasion, we focus mainly on the seminal writings of Kenneth Burke, examining Burke in the context of these other approaches.

Mr. Kaplan

Offered periodically

358 SYMBOLIZATION AND SYMBOLIC ACTION/Seminar

A research-oriented seminar, adapting certain approaches to issues of symbolism, symbolization, and interpretation. The emphasis in this seminar is on the articulation and execution of empirical or experimental inquiries that are theoretically and conceptually motivated. The principal approach employed will be that of genetic-dramatism, (Werner and Kaplan, Kenneth Burke) with the incorporation of certain insights derived from other major students of symbolic processes and symbolic action, e.g., Cassirer, Ricoeur, Perelman, Ong, Jakobson, Turner, Booth, Barthes, Eco. Prior participation in Psychology 357, though not required, is highly desirable.

Mr. Kaplan

Offered periodically

366 MIND AND COGNITION/Seminar

The underlying general question in this seminar concerns the organization of mind and the development of knowledge. Topics include logic and mind, language and mind, relations between logical development and language, learnability, innateness, induction, and culture and mind. Psychological and philosophical material is discussed.

Ms. Joffe Falmagne

Offered every other year

380 RESEARCH IN PSYCHOLOGY/Tutorial

Direction of individual students in their research.

Staff

Offered every semester

381 READINGS IN PSYCHOLOGY/Tutorial

A critical analysis of literature in areas related to individual research.

Staff

Offered every semester

382 CONSULTATION IN FAMILY PRACTICE/Practicum

Practicum in consultation to residents in family medicine; for third- or fourth-year clinical students.

Mr. Bibace

Offered every semester

383 WORKSHOP ON PROBLEMS AND ISSUES IN CLINICAL PSYCHOLOGY/Seminar

For all clinical students in residence.

Clinical Staff

Offered every semester

385 ETHICAL AND PROFESSIONAL ISSUES/Practicum

For first-year clinical students.

Mr. Baker, Staff

Offered every semester

386 THERAPY I/Practicum

For second-year clinical students.

Mr. Baker, Mr. Bibace,

Mr. Cirillo, Mr. Wiener, Mr. Peterson

Offered every semester

387 THERAPY II/Practicum

For third-year clinical students.

Mr. Baker, Mr. Bibace,

Offered every semester

Mr. Cirillo, Mr. Wiener, Mr. Peterson

388 INTERVIEWING, EVALUATION AND DIAGNOSIS/Practicum

For fourth-year clinical students

Mr. Baker, Mr. Cirillo

Offered every semester

389 INTERNSHIP IN PSYCHOLOGY/Practicum

Staff

Offered every semester

Russian

See Department of Foreign Languages and Literatures.

Screen Studies

See Department of Visual and Performing Arts.

Sociology

DEPARTMENT FACULTY

J. Peter Cordella, Ph.D.: deviance, sociology of law, social theory, social stratification, sociology of religion

James T. Hannon, Ph.D. candidate: social movements, religion, peace studies, aging/life cycle, research methods

Ruth Harriet Jacobs, Ph.D.: gender, theory, field methods, aging

[On leave 1988 - 89]

Robert J. Ross, Ph.D.: urban studies, political sociology, political economy, social policy

Elizabeth A. Stanko, Ph.D.: criminology, criminal justice, sociology of gender, qualitative methodology

Shelly Tenenbaum, Ph.D.: Judaic studies, race/ethnicity, social stratification

EMERITUS

Sidney M. Peck, Ph.D.

UNDERGRADUATE PROGRAM

Sociology is the study of society and human variety: of structures, of histories, of biographies. To understand historical and social forces and their relation to individual lives is a requisite first step to acting with freedom, reason, and historical consequence in dealing with the cultural tasks of our times.

A major goal of the sociology program at Clark is to help persons attain a working knowledge of those theories, concepts, methods, and findings of sociology and related disciplines that are relevant to understanding and affecting the origins, development, maintenance, and change of social institutions and forms of social organization.

The department recognizes that not all students majoring in sociology, or taking a number of sociology courses, will want or need to obtain precisely the same kinds of experiences at Clark. To this end, the program has built in a reasonable degree of flexibility, offering the student choices both of courses within general categories and of practicum experiences.

Many sociologists study society in order to change it. As a social science faculty, our department is committed to a humanistic perspective. We are concerned about the human situation and the relevance of our scholarship to societal issues and community problems as well as to our individual lives. We hope to understand the structure and dynamics of human society, on a small or large scale, so that we can contribute to those movements of change in our society that strive to liberate us all from the oppressive conditions of exploitation, discrimination, and alienation.

Sociology is a basis for many different kinds of careers and graduate schools. Feel free to discuss your postgraduate plans with the faculty. Also, ask the department secretary for a copy of our department's handbook (revised yearly) as well as for handouts on employment opportunities and careers.

The departmental major consists of nine courses within the department and five additional related courses in other departments selected from a set of focused options; students develop their selections through close consultation with a major adviser. The nine departmental courses are to be divided as follows:

- I) At least one introductory course chosen from:

Introduction to Sociology

Sociology of Everyday Life

- II) At least one advanced theory course chosen from:

Sociological Theory: Classical

Sociological Theory: Contemporary

Topics in Sociological Theory

- III) At least one methods course chosen from:

Research on Everyday Life

The Social Research Process

- IV) At least two core courses chosen from among the following subfields of the discipline: social psychology, criminology, aging, industrial sociology, social stratification, urban sociology, women's studies.

- V) In their senior year (or in selected cases, before that) and in close consultation with their advisers, majors select one of the following options:

Option A, *Thesis*: This is the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 percent of their senior year to a major research problem.

Option B, *Internship*: This is the equivalent of from one to four full courses; it is designed for selected students who seek supervised field training in community or organizational settings.

Option C, *Coursework*: For those students who do not choose any of the above options, nine sociology courses are required for the major.

Option D, *A combination of coursework and internship experiences totaling four course units.*

- VI) *Related Courses*

In close consultation with their advisers, students plan a program of additional courses that center on a coherent intellectual focus, which complements the substantive knowledge of conceptual skills of the department curriculum. Such foci will, most usually, consist of courses taken in another social science department, but they may be interdepartmental, e.g., "urban focus" could include courses in government, geography, history, and economics. The general expectation of the department is that such related course work will consist of five courses. This expectation may be higher for those who choose foci that entail taking elementary courses as preparation or as prerequisites.

GRADUATE PROGRAM

At the present time, the department is not offering advanced degrees.

COURSES

100 INTRODUCTION TO SOCIOLOGY/Variable format

A general introductory course in the discipline of sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods of inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to gain a sociological perspective on human conduct.

Mr. Ross, Mr. Cordella, Mr. Hannon,
Ms. Tenenbaum, Staff

Offered every semester

101 SOCIOLOGY OF EVERYDAY LIFE/Variable format

A version of introductory sociology in which students look at the ordinary events of their past and current life history to discover the patterns that come from the complex nature of social organization, culture, and social structure.

Staff
Offered periodically

105 SELF AND SOCIETY/Lecture, Discussion

An examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology are examined as they illuminate the major, enduring themes that confront human beings over the life cycle individually and collectively: e.g., socialization and the development of identity, conformity, persuasion, aggression and altruism, prejudice, relationship of the individual in community.

Mr. Cordella, Staff
Offered every other year

110 INTRODUCTION TO WOMEN'S STUDIES/Lecture, Discussion

An overview of the field of women's studies, focusing on sociological, historical, psychological, and economic dimensions of the female experience. This course explores: biosocial roots of the sexual division of labor, female socialization, education, sexuality, labor force participation, family roles, aging, the future of feminism.

Staff
Offered every year

111 SURVEY OF PEACE STUDIES

Refer to Peace Studies 111.

170 THE SOCIAL RESEARCH PROCESS/Variable format

Provides a general introduction to various methods employed in sociological research. The emphasis is on qualitative methods such as participant observation and interviews. Students learn about these methods by using them in projects of interest to them. Majors may meet the methods requirement by selecting this course, but the course is also available to nonmajors who wish to learn how to investigate social life. Selected studies in various methods are assigned reading.

Mr. Cordella, Ms. Stanko, Staff
Offered every year

200 DIRECTED READINGS IN SOCIOLOGY

Offered for variable credit.
Staff
Offered every semester

201 SPECIAL PROJECT: PEACE ACTION RESEARCH

This special project focuses on the interrelationship between theory and practice in peace studies. Theoretical understanding of the international arms crisis is tested in the practice of developing community organizing approaches to peace education outreach. Readings on the historical and sociological dimensions of the escalation toward nuclear war and the rise of mass movements to prevent the outbreak of nuclear war are utilized throughout the project.

Staff

Offered periodically

202 WORCESTER COMMUNITY STUDY/Research seminar

A field research seminar oriented to descriptive evaluation and action research on any facet of the social structure of the Worcester community. Students who wish to add a research dimension to their special projects, internships, and practica are encouraged to participate in this seminar.

Staff

Offered periodically

203 AMERICAN JEWISH LIFE/Variable format

The main objective of this course is to provide students with an introduction to the social scientific study of American Jewry. We will survey a broad range of topics such as immigration, economic class structure, intermarriage, Jewish feminism, American Judaism, ethnic identity, anti-Semitism, and political behavior. Throughout the semester, comparisons between Jews and other groups will be highlighted. (Formerly *Sociology of Jewish Americans*)

Ms. Tenenbaum

Offered every year

204 THE HOLOCAUST: A STUDY OF GENOCIDE/Variable format

This course will enable students to gain an understanding of the origins and history of the Holocaust. The focus is not only on the annihilation of six-million individual Jews, but also on the destruction of a Jewish world and civilization. Several important topics to be analyzed are: the roots of Nazi anti-Semitism, the execution of the "Final Solution," social life in the ghettos, and acts of resistance. In addition, the course will attempt to provide an understanding of the reactions of Germans and Poles living under the Third Reich, of governments (particularly the United States), of Christian organizations, and of world Jewry. Comparisons between the destruction of European Jewry and other acts of genocide will be made. Students who have taken History 278: *Holocaust: The Destruction of European Jewry*, cannot enroll for this course.

Ms. Tenenbaum

Offered every year

209 SOCIOLOGY OF WOMEN'S WORK/Variable format

This course explores women's work roles. Topics include the work of the housewife, the transitions of women in and out of the labor force during the life cycle, career selection, displaced homemakers, women in corporations and professions, gender stratification, and other areas of special interest to students.

Staff

Offered every other year

210 WOMEN AND CRIME/Variable format

In traditional criminology, women's roles in the criminal justice system are seldom a topic of focus. The course concentrates on the role of women as criminal offenders and as the primary targets of male offenders. We explore the traditional felony crimes such as murder, robbery, victimless crimes, prostitution; treatment of women in courts and prison; victimology, such as rape and battered wives; and women workers within the criminal justice system, such as policewomen.

Ms. Stanko

Offered every year

215 RESEARCH ON EVERYDAY LIFE/Variable format

Examines the world of everyday life. As participants and observers, students design and conduct a research project. The course explores various approaches to analyzing the collected data, including dramaturgical and ethnomethodological frameworks.

Ms. Stanko, Staff

Offered every year

225 SOCIOLOGY OF SEX ROLES/Variable format

The focus of the course is on the sex role socialization process and gender stratification in contemporary American society. Courtship, marriage, and divorce are discussed. Work roles are considered.

Staff

Offered every other year

227 FIELDWORK SEMINAR IN WOMEN'S STUDIES

This course is designed for student interns in fieldwork settings related to women's studies: family planning agencies, rape crisis centers, day care centers, etc. Fieldwork is supplemented by readings on the impact of feminism on social services and the relationship between social services and social change.

Staff

Offered every year

239 AGING AND SOCIETY/Lecture, Discussion

This course focuses upon the multiple realities of aging in human society. Specific attention is devoted to the history and social role of the aged in the United States. The impact of social structure upon the aged requires examination of key issues confronting the elderly such as employment, retirement, income, housing, health care, education, sexuality, and death. A variety of social programs designed for the aged are critically evaluated. (Formerly *Social Gerontology*.)

Staff

Offered every year

241 SOCIOLOGY OF MEDICINE/Variable format

Examines health and illness as social phenomena. Topics to be covered include social causes of disease, theories of individual response to illness, and the sociology of institutions that attempt to care for and cure the sick. The course also addresses problems in the health care system at the national level and explores solutions to the mounting "crisis" in the provision of health services. Useful to those with general interest, as well as students considering health-related careers.

Staff

Offered periodically

242 FIELDWORK SEMINAR IN SOCIAL GERONTOLOGY

Supervised placements for students within the aging network are supplemented by appropriate readings, written assignments, and group discussion.

Staff

Offered periodically

243 POLITICAL SOCIOLOGY/Variable format

Examines structures of social class and power in relationship to stability, conflict, and change in American government. Focuses on government relationship to businesses, the economy, and other political interests and behavior. Compares the United States to other industrial countries.

Mr. Ross

Offered every other year

246 SOCIAL PLANNING AND SOCIAL POLICY/Variable format

Introduces the field of social policy. Each semester focuses on a particular theme. Past themes include: poverty, urban planning and social policy, community planning.

Mr. Ross

Offered every other year

247 CITIES AND SUBURBS/Variable format

Introduces urban sociology. Examines structure and development of American metropolitan areas and community power, with special attention to changing functions of city and suburb. Examines different ways of life in city and suburb.

Mr. Ross

Offered every year

248 SEMINAR IN GLOBAL CAPITALISM

Examines processes of economic and social development in two regional frameworks: changes in the structure of industrial regions of the advanced capitalist countries and changes in the structure of developing and more peripheral regions. The conceptual framework is that of a global capitalist system undergoing significant transformation in the deployment of labor and capital.

Mr. Ross

Offered every year

250 CRIMINOLOGY/Variable format

Explores the nature of crime in society, theories about victims of crime, theories about why people commit illegal acts, and the kinds of crime that occur in American society.

Mr. Cordella, Ms. Stanko, Staff

Offered every year

251 MEDIA AND SOCIETY

Analyzes the history and development of the modern media of mass communications and explores key issues in the sociological analysis of popular culture. A variety of theoretical and methodological approaches to the sociology of mass communications is presented. Through intensive in-class analyses of film and television as cultural documents, students learn to analyze the relationship between form and content in the production of cultural meaning. This course focuses primarily on visual media; extra screening times are required. (Formerly *Sociology of Mass Communications*)

Staff

Offered every year

252 SOCIOLOGY OF MINORITIES

Provides a broad introduction to the study of racial minorities in the United States. The course focuses on the political, economic, and social lives of several groups such as Native Americans, Latinos, Afro-Americans, and Asia-Americans. Some of the specific topics discussed are racism, the civil rights movement, the intersection of gender and class in the lives of minority group members, economic mobility, and assimilation. A central assumption of this course is that in order to understand contemporary racial relations, we must turn to the historical experience.

Ms. Tenenbaum

Offered every year

254 SOCIOLOGICAL THEORIES OF HEALTH AND ILLNESS/Variable format

Many sociologists have analyzed health and illness behavior and the contemporary medical care system. This seminar focuses on major attempts to apply sociological theory to these phenomena. Three important theoretical models are examined in depth: structural-functionalist, symbolic interactionist, and Marxist approaches.

Staff

Offered periodically

255 THE FAMILY/Variable format

Critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar considers comparative, historical, and other analyses of the social role of women vis-a-vis the role relationships inherent in marital institutions.

Staff

Offered periodically

256 CLASS, STATUS, AND POWER/Variable format

An analysis of the major dimensions of social stratification in contemporary society. Economic class, social status, power, class consciousness, social mobility, and the consequences of class difference are studied.

Ms. Tenenbaum, Staff

Offered every year

257 CITIES IN GLOBAL PERSPECTIVE/Variable format

There are four dimensions of comparison upon which this course is based: historical; cross-national within advanced capitalism; a cross-system of social relations, i.e., capitalist as compared to socialist urbanization; and finally, a contrast between the processes and structures of urbanization in the First and Third Worlds.

Mr. Ross

Offered every year

260 SOCIAL PSYCHOLOGY OF IDENTITY/Variable format

Examines the concept of self or identity as it develops within the social world. Identity is approached from a life-span/developmental perspective, a comparative perspective, and a social psychological perspective. The course attempts to join a theoretical with an experiential process of teaching-and-learning.

Staff

Offered periodically

261 CRIMINAL JUSTICE IN AMERICA/Variable format

The criminal justice system is a complex set of roles and perspectives, traditionally viewed as an integrated unit processing individuals arrested for criminal offenses. This course is designed to view the criminal justice system as a topic of inquiry into social relations of institutions, which are studied as isolated agencies (i.e., law enforcement, court process, corrections) and as a whole, "integrated" system.

Ms. Stanko, Staff

Offered every year

262 SOCIOLOGY OF LAW/Variable format

This course will examine the relationship between law and other aspects of social life, specifically, stratification, morphology, organization and culture. The course will compare law with other methods of social control. Special attention will be directed to the comparison of law and custom. The course also will analyze the three functions of law: deterrence, conflict resolution, and social engineering. Using both historical and cross cultural materials, the course will examine the validity of such issues as legal evolution and equality under the law. The course will utilize the theoretical works of Marx, Durkheim, and Weber to analyze the nature of law as either a dynamic or static process in society.

Mr. Cordella

Offered every year.

265 SOCIAL MOVEMENTS/Variable format

Discusses the general characteristics of modern social movements, with the New Left and other protests of the sixties used as extended case examples. Problems of recruitment, organization, and ideology are analyzed. The form of the course depends on the size of registration.

Mr. Hannon, Mr. Ross, Staff

Offered periodically

275 RELIGION AND SOCIETY/Variable format

The interaction between religion and contemporary society (particularly in the United States) is characterized by conflict and controversy concerning the unique relationship between religious organizations and "the State." This course will attempt to analyze the effect of religious organizations on the culture, structure and policies of contemporary society by exploring, historically and cross culturally, the influence of religion on social existence.

Mr. Cordella, Mr. Hannon

Offered every year

282 INDUSTRIAL SOCIOLOGY/Variable format

Focuses on the study of social relations in the industrial setting. The course covers the research tradition beginning with the human relations school and extending through the sociology of work and occupations. A special focus of the course is workers' organizations and the sociology of labor.

Staff

Offered every other year

285 SPECIAL TOPICS IN PEACE STUDIES

Refer to Peace Studies 285.

290 SOCIOLOGICAL THEORY: CLASSICAL/Variable format

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on how certain social themes dealing with human relationships were treated by the classic works of outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas—beginning with Machiavelli and More and ending with Weber and Simmel—is considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France, and Germany. Meets social theory requirement for majors.

Mr. Ross, Mr. Cordella, Staff

Offered every other year

291 SOCIOLOGICAL THEORY: CONTEMPORARY/Variable format

Social developments in the United States during the post-World War II epoch have given rise to a variety of theoretical views in the field of sociology. Diversity of approach and fragmentation of theoretical stance are related to significant changes in social structure and political economy of the United States during the past three decades. The relationship between social theory and political ideology is considered throughout.

Mr. Cordella, Staff

Offered every other year

296 ADVANCED TOPICS IN CRIMINAL JUSTICE/Variable format

Concerned with an in-depth view of the current issues in the field of criminal justice. Students are responsible for developing a project that includes on-site experience.

Ms. Stanko, Staff

Offered periodically

297 TOPICS IN SOCIOLOGICAL THEORY/Variable format

For those who have already taken classical or contemporary theory and also for those who have not done in-depth study of particular theorists but wish to do so. Meets theory requirement for majors.

Mr. Cordella, Mr. Ross, Staff

Offered every other year

299 THESIS STUDIES

Independent study submitted for honors consideration for senior sociology majors. Students should sign up with the faculty member whose areas of interests are most suited to their own. Emphasis is upon independent research undertaken with faculty guidance and supervision. Generally requires two credits in each semester of senior year, and culminates with a thesis submitted for honors consideration.

Staff

Offered every year

299.9 INTERNSHIPS IN SOCIOLOGY

Supervised field training in community and organized settings. This is the equivalent of from one to four full courses in sociology. Variable credit.

Staff

Offered every semester

Spanish

See Department of Foreign Languages and Literatures.

Theater Arts

See Department of Visual and Performing Arts.

Visual and Performing Arts

Neil R. Schroeder, Ph.D., *acting chair*: theater history and criticism, modern drama, speech, Ibsen

Clark's Department of Visual and Performing Arts is made up of individual academic programs in art history, studio art, music, screen studies, and theater arts. Whether students prefer to study the history, criticism, philosophy, and theory of the arts or to engage in the creative activity of studio, composition, or performance, there are courses, concentrations, and majors available. A major in a given area can be the core for a preprofessional program; or, the student may cross traditional disciplinary lines—by double majoring, for instance, or by individually designing a major or concentration that includes two or more areas of study. In consultation with the program director, students who have an interest in the arts but decide to major in other areas may develop a four- or five-course sequence as a concentration or cluster. Specific major requirements for the different programs and their course descriptions are listed below under each program heading. Majors and nonmajors are welcome to participate in the department's programs and courses and to attend its many art exhibitions, film presentations, and musical, dance, and theatrical performances.

ART

PROGRAM FACULTY

Sarah Buie, M.F.A.: graphic design, museum design and interpretation
Bonnie L. Grad, Ph.D.: nineteenth- and twentieth-century art
Donald W. Krueger, M.F.A.: foundation studies, drawing, painting, illustration
Catherine Levesque, Ph.D.: Renaissance and Baroque art
Rhys F. Townsend, Ph.D.: ancient art and archaeology

PART-TIME FACULTY

Jean Borgatti, Ph.D.: African, Native American, and Oceanic art
Elli B. Crocker, M.F.A.: drawing, painting
Stephen DiRado, B.F.A.: photography
Mary L. Graham, M.F.A.: foundation studies, drawing
Michael Hachey, M.F.A.: foundation studies, sculpture
Anita Meyer, M.F.A.: graphic design
Leon Nigrosh, M.F.A.: ceramic design
Ron Rosenstock, M.A.: photography

Cheryle St. Onge, M.F.A.: photography
Frederick A. Simon, B.S.: video production
Patricia E. Woods, M.A.: printmaking

ADJUNCT FACULTY

Paul Burke, Ph.D.
John Conron, Ph.D.

EMERITUS

Samuel P. Cowardin III, Ph.D.: Renaissance, oriental art

Because art reflects the trend of thought and the impact of events of its time, it relates to many other areas of study — history, philosophy, psychology, to name just a few. Study of art thus enhances one's understanding and appreciation of other disciplines. For students interested in the arts, humanities, or social and natural sciences, for majors and nonmajors alike, the study of art can provide an especially rewarding and enriching part of liberal arts education. Courses and programs in art offer opportunities to develop critical skills, acquire resources for visual thinking and communication, and engage in personal creative expression. And for both future art scholars and professionals, Clark's art programs provide a solid foundation that will serve them well in their graduate studies or careers.

For information concerning majors and courses, see the art history and studio art program entries below.

ART HISTORY AND CRITICISM

The Art History Major Program offers a meaningful liberal arts focus for students interested in art and the social, cultural, and historical context in which it is created. Majors may concentrate in such areas as ancient, Renaissance, and modern art history, or other areas of special interest. For those seriously considering teaching, museum and gallery work, arts conservation, or arts management, the major provides a solid foundation for graduate study.

Admission to the major requires a grade of at least B in *Introduction to Western Art* (or equivalent courses or superior advanced placement performance) and approval of the program faculty. Students must then complete fourteen courses: four art history courses in a single area (e.g., ancient, Renaissance, modern) including the Senior Project; four art history courses outside this area; four courses outside art, related to the area of concentration; and two studio courses. In the case of double majors, each of the four groups is reduced by one course, for a total of ten required courses.

COURSES

101 INTRODUCTION TO WESTERN ART I/Lecture, Discussion

Surveys ancient, medieval, and early Renaissance art. The first weeks are devoted to an examination of the basic elements in the visual arts, and to certain fundamental matters of terminology and methodology, with special emphasis on those aspects to be encountered in works discussed during the semester. Selected works are then studied as exemplars of style and artistic quality in the context of the leading ideas of their respective eras.

Mr. Townsend

Offered every year

102 INTRODUCTION TO WESTERN ART II/Lecture, Discussion

Following a review of elements and principles in the visual arts, selected works of

Western art from the High Renaissance to the present are studied in historical and cultural context.

Ms. Levesque

Offered every year

103 MASTERPIECES OF WESTERN ART/Lecture, Discussion

A one-semester survey of topics selected to introduce some of the most basic issues raised in examining a work of art. The works chosen reflect the significant traditions of Western art, while the loose chronological framework serves to link the artists and their works with general notions about our civilization. Among the artists and monuments included in the course are: the Parthenon, Chartres, Raphael, Michelangelo, Bernini, Bruegel, Rembrandt, Monet, Picasso, and Frank Lloyd Wright.

Ms. Levesque

Offered every year

105 THE AEGEAN WORLD/Lecture, Discussion

An introductory survey of architecture, sculpture, and painting in Egypt, Mesopotamia, and the Aegean during the Bronze Age, the course covers the Old and New Kingdoms of Egypt; the great dynasties of Sumer, Akkad, and Babylon; and the cultures of the Aegean islands, Crete, and mainland Greece. Examines and compares artistic forms and traditions of each region in order to shed light on the individual religious and social contexts in which they evolved and to reveal the differing conditions under which these civilizations emerged. Highlights the renowned archaeologists whose discoveries have illuminated the history and artifacts of these lands. Field trips to area museums.

Mr. Townsend

Offered periodically

106 INTRODUCTION TO ARCHAEOLOGY/Lecture, Discussion

Concentrating on the Mediterranean region, the course traces the history and methods of this discipline—emphasizing its unique combination of the sciences and the humanities—from its faltering but enthusiastic first steps to its technologically advanced state today. Selected case studies, which involve the student's active participation, demonstrate how archaeology has illuminated the ancient world. A special concern is the newly developed field of underwater archaeology, which has contributed so much to our understanding of the history of seafaring.

Mr. Townsend

Offered every other year

109 CLASSICAL MYTH AND THE GREEK IDEAL/Lecture, Discussion

Investigates a select number of classical myths and the concept of the "Greek ideal" as expressed in art, both in classical Greece and Rome and in various later periods, including the twentieth century. The myths are approached from the standpoint of origin and significance, changing modes of representation, and manipulation for political purposes. The concept of the Greek ideal is also examined both as it originally developed and as it was conceived in subsequent ages. Throughout, the changing attitudes towards the classical world and the significance of the classical tradition in art and history are emphasized. Field trips to area museums.

Mr. Townsend

Offered every other year

110 ANCIENT GREEK ART/Lecture, Discussion

This intensive survey extends chronologically from the Dark Ages following the collapse of the Minoan-Mycenaean world in the 12th century B.C. to the close of the Hellenistic period in the first century B.C.; geographically it reaches from Greece itself westward to the Greek cities of South Italy and Sicily, and eastward to the Hellenized lands of Asia Minor, Egypt, and the Near East. Within this context, discussion includes the concept of artistic originality and stylistic development, the relationship between art and politics, and the contribution of Greek art to the

subsequent history of the visual arts in the Western world. Field trips to the Worcester Art Museum and the Museum of Fine Arts in Boston.

Mr. Townsend

Offered every other year

111 ROMAN ART AND ARCHITECTURE/Lecture, Discussion

Refer to course description under Classics 111.

Mr. Burke

Offered every other year

114 ANCIENT CITIES AND SANCTUARIES/Lecture, Discussion

An introduction to the great urban and religious centers of the ancient world. The concept of the city is examined as it first evolved in the Near East and as it developed in classical Greece and Rome. Emphasis is placed both on the design and structure of urban spaces and on factors affecting town planning. The famous ancient sanctuaries are discussed not only as areas of religious worship, but as centers of cultural activity involving theater, art, athletics, and politics. Throughout, both cities and sanctuaries are viewed in their historical setting as part of the larger civilizations that nurtured them.

Mr. Townsend

Offered every other year

115 THE TEMPLE BUILDERS: ARCHITECTURE IN ANCIENT GREECE/Lecture, Discussion

Traces the evolution of monumental architecture in Greece from its origins in the Geometric period through its development in Archaic, Classical, and Hellenistic times. Emphasis on the integration of craftsmanship, or *techné*, with elements of design in the Doric, Ionic, and Corinthian orders. Discussion includes the relationship between architect and patron, the social role of architecture, and its political impact. In addition, students become familiar with questions and problems of modern investigation and reconstruction of ancient buildings.

Mr. Townsend

Offered every other year

120 THE HISTORY OF PRINTS/Lecture, Discussion (formerly 146)

An introduction that presents the development of printmaking in Europe from the fifteenth through the twentieth century. The aim of the course is to familiarize the student with the most important graphic techniques and at the same time to explore evolving attitudes toward prints and printmaking.

Ms. Levesque

Offered every other year

124 NORTHERN RENAISSANCE ART/Lecture, Discussion

An examination of the art of Northern Europe—particularly the Netherlands—in the fifteenth and sixteenth centuries. Particular attention is given to the major innovators of the period: Jan van Eyck, Rogier van der Weyden, Hugo van der Goes, Jerome Bosch, and Pieter Bruegel. Their work, among others, is studied in the context of the contemporary culture and economy.

Ms. Levesque

Offered every other year

125 ITALIAN RENAISSANCE ART/Lecture, Discussion

This course examines the development of the Renaissance in Italy during the fifteenth and sixteenth centuries. Concentration on three centers—Florence, Rome, and Venice—places the achievements of individual innovators within a particular cultural context.

Ms. Levesque

Offered every other year

131 BAROQUE ART/Lecture, Discussion

The close study of several seventeenth-century artists including Caravaggio, Bernini, Rubens, Rembrandt, and Poussin. Particular consideration is given to how each of

these artists expresses the naturalism, psychological acuity, and religious sensibility which are generally viewed as characteristic of baroque art.

Ms. Levesque

Offered every other year

134 SEVENTEENTH-CENTURY DUTCH PAINTING/Lecture, Discussion

An introduction to Dutch Painting of the seventeenth century. The art of Frans Hals, Rembrandt, Jan Vermeer, Jan Steen, and Jacob Ruisdael is viewed as part of a wider artistic and cultural context. Particular attention is given to the relationship between naturalism of representation and the contemporary language of symbols.

Ms. Levesque

Offered every other year

140 MODERN ART: NINETEENTH CENTURY/Lecture, Discussion

A survey of the revolutionary movements in European art including neoclassicism, romanticism, realism, and impressionism. Both the formal characteristics of these styles and the cultural and social context from which they emerged are examined. Special emphasis is given to the birth of romantic landscape painting in England and France, the notion of an "avant-garde," and the relationship of painting to photography after 1845.

Ms. Grad

Offered every other year

141 IMPRESSIONISM/Lecture, Discussion

This course traces the development of impressionism over three decades: from the early works of Manet to the last Impressionist Exhibition in 1886. The concentration is on Manet, Monet, Renoir, Degas, Cezanne, Cassatt, Morisot, and Pissarro, and how their art grew and changed rapidly in relation to one another's visual discoveries. The course examines the academic paintings of the Jonas and Susan Clark Collection to illustrate both what kind of art the impressionists were reacting against and what kind of art was popular at the time impressionism failed to win critical acceptance. Consideration is given to the social, economic, and political context from which urban and rural impressionism emerged.

Ms. Grad

Offered every other year

142 MODERNISM/Lecture, Discussion

This course begins where impressionism ends — in 1886, the year when the twentieth century is said, by some, to have arrived. After a brief survey of Post Impressionism, the course traces the blossoming of the modern imagination as it developed in the art of Europeans and Americans. The modern movements of fauvism, cubism, German expressionism, constructivism, and surrealism are considered.

Ms. Grad

Offered every other year

143 ART SINCE 1945/Lecture, Discussion

A survey of the major movements of contemporary American and European art, including abstract expressionism, environments and happenings, pop art, minimalism, earth art, and the new realism. The increasing importance of the commercial environment, popular culture, and technology is explored as a major theme in the art of the sixties. Each student assumes the separate roles of artist, critic, and art historian —creating an object, criticizing an exhibit or work of art, and formally analyzing a museum work —as a means of coming to terms with relevant formal and critical issues.

Ms. Grad

Offered every other year

144 MODERN LANDSCAPE ART: 1750-1970/Lecture, Discussion

Traces the development of landscape painting in Europe and America from 1750

through the recent past. Focuses on both the stylistic development of this art form and the cultural and social context in which it originated and flourished. Examines historical and social factors including urbanization and the birth of modern town planning, sanitation, water supply and park design; industrialization and technology; the rise of tourism; and the "commercialization" of the landscape. Emphasizes the role of landscape in the development of twentieth-century painting.

Ms. Grad

Offered every other year

155 ART OF AFRICA, OCEANIA, AND NATIVE AMERICA/Lecture, Discussion

Focuses on the art of the Yoruba of Southern Nigeria, Northwest Coast Native Americans, and selected cultures of New Guinea. Aims to develop in the student an appreciation for the art forms, cultural settings, and distinctive aesthetic in non-Western culture. Where possible, students are expected to make aesthetic and stylistic judgments concerning original material.

Ms. Borgatti

Offered every year

156 ARTS OF BLACK AFRICA/Lecture, Discussion

An introduction to the major traditions of art in the western Sudan and Guinea coast, the Niger delta and equatorial forest, the southern savanna, and southern and eastern African fringe. Emphasis rests on formal, conceptual, and historical links between the cultures and art forms considered.

Ms. Borgatti

Offered every year

159 SOCIAL VALUES IN TECHNOLOGY AND ART/Lecture, Discussion

A joint venture of the Art History and ETS Programs, this course aims to educate students in the history of technological development and the history of art by studying analytical texts and artistic interpretations of the changes that technology triggered in society. The focus is on the implications of technological change on social values and structural transformations in society. Selected art works reflect both dynamic changes caused by the development of new technologies and how the subject matter of new technologies inspired radical stylistic change. This course offers a novel approach to integrating scientific analysis and the broader perspective of art historical interpretation.

Ms. Grad and Mr. Renn

Offered every other year

181 ART AS ARTIFACT/Seminar

An intensive study of individual works of painting and sculpture that emphasizes the contribution of media, technique, and context to meaning. Some consideration is given to questions of connoisseurship (attribution and condition) insofar as these factors influence what we see. A number of classes are held at the Worcester Art Museum.

Ms. Levesque

Offered every other year

183 ART CRITICISM/Lecture, Discussion

This course surveys the writings of the major American and English art critics active from 1945 to the present. Through these writings of major critics, the student becomes familiar with a variety of methodologies and viewpoints, including formalism, neo-conservatism, Marxism, and feminism. Critics include Clement Greenberg, Harold Rosenberg, Hilton Kramer, Dore Ashton, Lawrence Alloway, Rosalind Krauss, Donald Kuspit, Lucy Lippard, and John Berger, among others. (Readings vary from year to year.) Several field trips to Boston area galleries occur throughout the semester. Writing intensive. *Art Since 1945* recommended but not required.

Ms. Grad

Offered every other year

248 WOMEN AND ART/Seminar

This course explores both the history of women artists and their art, and the nature of their professional involvement in the art institutions of their day. It also explores specific topics and questions: women as subjects in art, femininity and masculinity as cultural constructs, the concept of "genius" as myth, and the nature of female imagery (prescriptive and proscriptive.) Readings include Linda Nochlin, Thalia Gouma-Peterson, Lucy Lippard, Rozsika Parker and Griselda Pollack, and John Berger.

Ms. Grad

Offered every other year

249 SPECIAL TOPICS: MODERN ART/Seminar

Ms. Grad

Offered periodically

250 THE JONAS AND SUSAN CLARK COLLECTION/Seminar

This is an upper-level, multidisciplinary course which examines in detail the American landscape and European genre paintings of this small collection. The course considers the historical context in which the collection was formed, with special emphasis on the Clarks' interest in paintings of women, nature, and oriental scenes.

Ms. Grad

Offered every other year

290 SENIOR PROJECT IN ART HISTORY

Required of all majors in art history and criticism.

Staff

Offered every semester

2991 DIRECTED READINGS

Staff

2995 SPECIAL PROJECTS

Staff

2996 SPECIAL TOPICS

Staff

2999 INTERNSHIP

Staff

STUDIO ART

Most studio courses are available to nonmajors, special students, and students with combined or self-designed majors. Students who are interested in studio art but have decided to major in another area may, in consultation with the program director, develop a four- or five-course sequence as a concentration or specialization in areas such as graphic design or photography, among others. Certain studio courses satisfy the *aesthetic perspective* of the Program of Liberal Studies. Internships in art studios, advertising agencies, communications and arts agencies, museums, and galleries are available.

Throughout the year, the art program presents exhibitions of work by contemporary artists as well as work by students. The Craft Studio in the Student Activities Center offers opportunities for extracurricular involvement in arts and crafts activities.

The Studio Art Major Programs are designed to meet a number of student needs and interests: preprofessional preparation for graduate study and/or

professional careers in art, design, art education, arts management, art therapy, and other arts-related fields; the satisfaction of personal interest in art and design; and significant involvement in the creative process.

THE BACHELOR OF FINE ARTS DEGREE PROGRAM

For students with a strong interest in art and design and a serious commitment to intensive study during their college careers. This is a preprofessional program within a liberal arts context, which provides resources for future career decisions and directions. It involves investigation of alternatives: graphic design, photography, painting, illustration, etc., within the studio program and in the arts, the humanities and the social and physical sciences. Admission to the program is selective, and students are expected to maintain a professional level in their studio work as well as a high academic average. A strong advising program assists students in curriculum planning, identifying areas of major interest, and preparing for graduate study or a career. Areas of concentration include drawing and painting, graphic design, illustration, photography, printmaking, sculpture/ceramic design, and screen production. Required for the B.F.A.: 16 studio courses including four Foundation Studies, at least one Senior Studio, and the Senior Thesis. In addition, two art history courses and two nonstudio courses from the Department of Visual and Performing Arts are required.

THE BACHELOR OF ARTS DEGREE PROGRAM

For students who see art as a part of liberal education or those who may be undecided about professional interest and commitment. The B.A. program can accommodate interest in art education, art therapy, medical illustration, arts management, film and video, theater design, or individually designed or double majors. Required for the B.A.: ten studio courses including two Foundation Studies, two art history courses, and two nonstudio courses from the Department of Visual and Performing Arts. (No more than twelve studio courses will be counted toward graduation.)

NOTE: Certain studio courses are offered only when students have completed the necessary prerequisites; therefore, unless otherwise indicated, they are not offered on a regular basis. Some, but not necessarily all, of these courses will be offered during 1988-89 and 1989-90. At the discretion of the program director, certain studio courses may be repeated for credit. In addition to the prerequisites listed below, many courses require permission of the instructor and/or program director. Please refer to the semester course schedule.

COURSES

100 TWO-DIMENSIONAL DESIGN AND COLOR/Studio, Lecture, Discussion (Foundation)

An introduction to visual language and the creative process; a foundation for future studio work and/or original creative thought and action. Problems in figure-ground, color relationships, and two-dimensional pattern and form. Open to nonmajors.

Mr. Krueger, Ms. Graham, Mr. Hachey, Staff

Offered every year

101 THREE-DIMENSIONAL DESIGN AND SPACE/Studio, Lecture, Discussion (Foundation)

An introduction to visual language through study of space and plastic illusion, and basic three-dimensional structural principles and forms. 100 is not a prerequisite. Open to nonmajors.

Mr. Krueger, Ms. Graham, Mr. Hachey, Staff

Offered every year

102 BASIC DRAWING/Studio, Lecture, Discussion (Foundation)

An investigation, through graphic re-presentation of the subjective aspects of visual language, of contemporary concepts of drawing, and basic concepts of space and picture plane. Open to nonmajors.

Mr. Krueger, Ms. Graham, Mr. Hachey, Staff

Offered every year

103 VISUAL STUDIES/Studio, Lecture, Discussion (Foundation)

A consideration, primarily through drawing, of contemporary attitudes and modes of visual thinking and creative expression. Collage and elementary painting problems may be introduced at the discretion of the instructor. 102 is not a prerequisite. Open to nonmajors.

Mr. Krueger, Ms. Graham, Mr. Hachey, Staff

Offered every year

120 INTRODUCTION TO PHOTOGRAPHY: THE ZONE SYSTEM/Studio, Lecture, Discussion

An introduction to the art and craft of black-and-white photography emphasizing the zone system and including camera operation, developing, printing, and finishing techniques. Students must have a variable setting 35 mm or 2-1/4 x 2-1/4 camera with a built-in or hand-held exposure meter, tripod, and cable release, and must provide their own film and paper. Open to nonmajors.

Mr. Rosenstock, Mr. DiRado, Ms. St. Onge

Offered every semester

121 INTERMEDIATE PHOTOGRAPHY/Studio, Lecture, Discussion

Continuing the refinement of photographic seeing and darkroom techniques. Considers contemporary modes of photography and emphasizes development of personal vision. Prerequisite: 120 or acceptable portfolio. Open to nonmajors.

Mr. Rosenstock, Mr. DiRado, Ms. St. Onge

Offered every year

124 INTRODUCTION TO GRAPHIC DESIGN/Studio, Lecture, Discussion

Introduces the process of solving communication problems through the synthesis of verbal and visual information. Discussion of design forms (book, poster, brochure, sign, map, exhibition) from historical and aesthetic viewpoints; introduction to selected media (typography, drawn and photographed images, color) through studio exercises and applied problems. Open to nonmajors.

Ms. Buie

Offered every year

125 GRAPHIC DESIGN PROJECTS/Studio, Lecture, Discussion

Intermediate-level projects in graphic design. Open to nonmajors. Prerequisite: 124 or permission of instructor.

Ms. Buie, Ms. Meyer

Offered every year

128 DRAWING/Studio, Lecture, Discussion

The study of drawing with emphasis on the nature of drawing as opposed to the representation of nature — an analytical approach using object, figure, landscape, and imaginative imagery. Open to nonmajors.

Ms. Crocker, Staff

Offered every year

129 DRAWING STUDIES/Studio, Lecture, Discussion

A continuation of the study of drawing as graphic representation and expression using both figurative and nonfigurative imagery. 102 or 128 are recommended as preparation.

Ms. Crocker, Staff

Offered every other year

132 DRAWING AND PAINTING/Studio, Lecture, Discussion

An introductory course investigating material and subject possibilities and beginning, through drawing and painting, a process of artistic experimentation and self-examination. Individual and group critiques, discussions, and experimentation with contemporary painting idioms. Open to nonmajors.

Ms. Crocker, Staff

Offered every year

133 PAINTING/Studio, Lecture, Discussion

A continuation of the study of painting with increasing emphasis on individual development and direction. 103 or 132 recommended as preparation. Open to nonmajors.

Ms. Crocker, Staff

Offered every other year

136 INTRODUCTION TO SCULPTURE/Studio, Lecture, Discussion

Introduces the ideas and materials of three-dimensional form and investigates contemporary aspects of sculptural expression. Open to nonmajors.

Mr. Hachey

Offered every year

137 SCULPTURE PROJECTS/Studio, Lecture, Discussion

An intermediate-level course leading to the development of personal direction and expression in three-dimensional form. Open to nonmajors. Prerequisite: 136 or permission of instructor.

Mr. Hachey

Offered periodically

150 INTRODUCTION TO CERAMIC DESIGN/Studio, Lecture, Discussion

An exploration of three-dimensional form, using clay as a plastic medium. Emphasis is on developing an awareness of sculptural form and formal interrelationships in nature, art, and architecture. Open to nonmajors. 101 recommended as preparation.

Mr. Nigrosh

Offered every year

154 CERAMIC DESIGN PROJECTS/Studio, Lecture, Discussion

Intermediate work in clay design in relation to individual technical and stylistic development. Emphasis is on sculptural—including architectural—design rather than utilitarian function. Open to nonmajors. Prerequisite: 150 and/or permission of instructor.

Mr. Nigrosh

Offered every year

158 INTRODUCTION TO PRINTMAKING/Studio, Lecture, Discussion

Introduces the technique and aesthetic of intaglio printmaking—etching, drypoint, aquatint, and engraving. Open to nonmajors. At intervals the course may include an introduction to lithographic printing processes. Introductory drawing course(s) and/or previous drawing experience recommended as preparation.

Ms. Woods

Offered every year

162 PRINTMAKING PROJECTS/Studio, Lecture, Discussion

Intermediate problem solving in printmaking media—individual projects to be determined by student's interest and skills. Open to nonmajors. Prerequisite: 158 and/or permission of instructor.

Ms. Woods

Offered every year

166 SCREEN PRODUCTION—FILM/Studio, Lecture, Discussion

An introductory workshop in Super-8mm film production. Students are expected to complete a specific number of films of varied content. Open to nonmajors.

Staff

Offered periodically

<p>167 SCREEN PRODUCTION—VIDEO/Studio, Lecture, Discussion An introductory workshop in seeing and thinking in electronic imaging techniques and processes. Open to nonmajors. Mr. Simon</p>	<p>Offered every semester</p>
<p>170 SCREEN PRODUCTION PROJECTS—FILM/Studio, Lecture, Discussion Intermediate individual and/or group work in film. Prerequisite: appropriate screen production courses and/or permission of instructor. Staff</p>	<p>Offered periodically</p>
<p>171 SCREEN PRODUCTION PROJECTS—VIDEO/Studio, Lecture, Discussion Intermediate individual and/or group work in video. Prerequisite: appropriate video production course(s) and permission of instructor. Mr. Simon</p>	<p>Offered every year</p>
<p>174 CONTEMPORARY DIRECTIONS/Studio, Lecture, Discussion An intermediate-level course. Experiential examination of current movements, directions, styles, and attitudes in art. Open to nonmajors. Prerequisite: appropriate introductory courses and permission of instructor. Staff</p>	<p>Offered periodically</p>
<p>182 BASIC TECHNICAL THEATER See listing under Theater Arts 120. Ms. Kurki</p>	<p>Offered every year</p>
<p>183 TECHNICAL THEATER II See listing under Theater Arts 122. Ms. Kurki</p>	<p>Offered every year</p>
<p>184 DESIGN FOR PERFORMANCE See listing under Theater Arts 123. Ms. Kurki</p>	<p>Offered every year</p>
<p>185 SCENERY AND COSTUME PROJECTS See listing under Theater Arts 125. Ms. Kurki</p>	<p>Offered every year</p>
<p>186 THE PHYSICAL THEATER See listing under Theater Arts 126. Ms. Kurki</p>	<p>Offered every other year</p>
<p>200 PHOTOGRAPHY PROJECTS/Studio, Lecture, Discussion Continues the study of the techniques and aesthetics of black-and-white photography. Students have the opportunity to pursue individual photographic projects in the size and format of their choice. Open to nonmajors. Prerequisite: 120 and/or 121 and permission of instructor. Mr. Rosenstock, Mr. DiRado, Staff</p>	<p>Offered every year</p>
<p>204 PHOTOGRAPHIC STUDIES/Studio, Lecture, Discussion An intermediate/advanced workshop for students who have demonstrated competence in black-and-white photography. Semester topics may include color photography or alternative, nonsilver photographic techniques. Open to nonmajors. May be repeated for additional credit. Prerequisite: introductory or intermediate photography courses and permission of instructor. Staff</p>	<p>Offered periodically</p>

208 TYPOGRAPHY/Studio, Lecture, Discussion

Study of typographic art through studio exercise and applied problems that deal with the organizational and expressive natures of type. Prerequisite: 124, 125, and permission of instructor.

Ms. Buie, Ms. Meyer

Offered every year

218 DRAWING AND PAINTING PROJECTS/Studio, Lecture, Discussion

A continuation of drawing and painting processes and concepts for the intermediate/advanced-level student, with emphasis on the search for individual direction and statement. Prerequisite: appropriate drawing and painting courses and permission of instructor.

Ms. Crocker, Staff

Offered every year

224 DRAWING—REALIST MODE/Studio, Lecture, Discussion

Intermediate/advanced-level course focusing on representational drawing and painting. Applicable for students interested in illustration. Prerequisite: appropriate drawing and painting courses and permission of instructor.

Ms. Crocker, Staff

Offered every other year

234 STUDIO TOPICS/Studio, Lecture, Discussion

An advanced course. Students from all studio disciplines develop their work in response to thematic issues presented through readings and discussions. Themes change with each semester offering. Satisfies Senior Studio course requirement, and may be repeated for credit. Recommended as preparation for Senior Thesis.

Mr. Krueger, Staff

Offered every year

250 PHOTOGRAPHY STUDIO/Studio, Discussion

Advanced, professionally oriented, individual photographic study. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisite: appropriate intermediate and advanced courses and permission of instructor.

Staff

254 GRAPHIC DESIGN STUDIO/Studio, Lecture, Discussion

Advanced problems in graphic design. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisites: 124, 125, and permission of instructor.

Ms. Buie

Offered every year

256 SEMINAR IN CARTOGRAPHIC DESIGN

See listing under Geography 274. Satisfies Senior Studio requirement.

258 DRAWING AND PAINTING STUDIO/Studio, Discussion

Advanced, professionally oriented, individual drawing and painting study. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisite: appropriate intermediate/advanced drawing and painting courses and permission of instructor.

Staff

Offered every year

262 ILLUSTRATION STUDIO/Studio, Discussion

Advanced, professionally oriented projects in contemporary editorial, book, magazine, and advertising illustration. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisite: appropriate intermediate/advanced drawing and painting (and/or photography) courses and permission of instructor.

Mr. Krueger

Offered every year

266 SCULPTURE STUDIO/Studio, Discussion

Advanced, professionally oriented, individual study of sculpture, and spatial and three-dimensional design. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisite: 136, 137, and permission of instructor.

Mr. Hachey

Offered every year

270 PRINTMAKING STUDIO/Studio, Discussion

Advanced, professionally oriented, individual study in printmaking. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisite: 158, 162, and permission of instructor.

Ms. Woods

Offered every year

278 SCREEN PRODUCTION STUDIO/Studio, Discussion

Advanced individual projects in video and/or film production. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisite: appropriate intermediate level screen production courses and permission of instructor.

Mr. Simon, Staff

Offered every year

280 SENIOR STUDIO/Studio, Discussion

Designation for advanced, preprofessional, independent work under faculty supervision, in one of the studio media. Satisfies Senior Studio requirement, and may be repeated for credit. Prerequisites: appropriate advanced courses and permission of instructor.

Staff

Offered every year

289 SENIOR THESIS

Required of all B.F.A. students for graduation; optional for B.A. studio art majors. The development of a body of preprofessional work to be presented to the faculty with oral and written thesis support. Satisfies Senior Studio requirement.

Staff

Offered every year

2995 SPECIAL PROJECT

Staff

2999 INTERNSHIP

Staff

MUSIC

PROGRAM FACULTY

Gerald R. Castonguay, Ph.D., *program director*: musicology

Wesley M. Fuller, M.Mus.: theory, composition, electronic and computer music

PART-TIME FACULTY

Rita LaPlante, M.L.A.: piano

Jacques L. Linder, M.Mus.: piano, clarinet

Karen Lykes, M.Mus.: voice

George Maxman, B.Mus.: violin, conducting

F. Brian McConville, M.Mus.: conducting

Allan Mueller, B.S.G.S.: jazz studies, jazz piano

Suzanne E. Stumpf, B.A.: flute

Robert Paul Sullivan: guitar

ADJUNCT FACULTY

Hartmut Kaiser, Ph.D.

The music program offers a preprofessional course of study for the music major and courses and activities for the nonmajor. Courses are designed to teach students to listen to music intelligently, to develop musical perception, to master basic skills of music and apply them creatively, and to acquaint students with representative works from various periods of music history. The study of music can open new perspectives on many aspects of culture and society, and the program stresses the advantages of combining professional musical development with the humanistic breadth offered by a strong liberal education.

Courses are open to majors and nonmajors, and assignments are designed to suit the different goals and backgrounds of the students in each category.

THE MUSIC MAJOR: THEORY, COMPOSITION, OR HISTORY CONCENTRATION

Requirements:

- Theory: 120, 121, 122, 123, 124, 125
- Music History: 11, 12, 13, 14, 15, 16
- Private Study: 180 (Four semesters of private instruction taken after completion of Music 120 or equivalent)
- Performing Groups: a minimum of four semesters in 107, 117, 127, 130, or 137
- Related areas: a full course in aesthetics, art, theater arts, or screen studies
- A minimum skills test, including sight-singing and dictation at a level of proficiency necessary for successfully pursuing the major, must be passed during the sophomore year. A keyboard proficiency test must be passed during the junior year.

The theory, composition, or history concentration requires individual tutorial work in the area of emphasis, usually undertaken only in the senior year. The major culminates in one of several types of final projects, such as papers in historical research, theoretical studies, and compositions (including the area of electronic music). The four semesters of private lesson fees in these three concentrations are covered by regular tuition payment.

THE MUSIC MAJOR: PERFORMANCE CONCENTRATION

Requirements:

- Private Study: 180 (A minimum of six semesters taken after completion of Music 120 or equivalent)
- Theory: 120, 121, 123, 124, 125
- Music History: 12, 13, 14, 15, 16
- Performing Groups: a minimum of four semesters in 107, 117, 127, 130, or 137
- Related areas: a full course in aesthetics, art, theater arts, or screen studies
- A minimum skills test, including sight-singing and dictation at a level of proficiency necessary for successfully pursuing the major, must be passed during the sophomore year.

For the performance concentration, private lessons are taken throughout the major program. Any entering prospective performance concentration music major must request an audition and assessment of his/her potential regarding the performance concentration. Formal admission into the performance concentration requires a second audition at the start of the sophomore year. The performance concentration culminates with a senior recital and a seminar dealing with stylistic analysis of the music to be performed in the recital. At least four appearances in

student recitals, including a half-recital during the junior year, precede the senior recital. The lesson fee in the performance concentration is covered by regular tuition payment during the sophomore through senior years. It is strongly urged that *Basic Skills I and II* (Music 120 and 121) be successfully completed by the end of the sophomore year.

SPECIAL PROGRAMS

Concentration in music: The concentration (or specialization) in music is intended for students with an interest in music but whose major lies in another discipline.

Requirements:

- Music 10
- Music 120
- Music 121
- Three additional courses in music. These may include Music 18, *Private Instruction*. (For information on tuition coverage see Music 18 description.)

Concentration in special areas: This music specialization centers on a core of studies in one of several special areas. Open to nonmajors. Prerequisite: Music 10, 120. *Program in Electronic Music:* Music 140, 141, 90; *Program in Jazz Studies:* Music 131, 132, 133; *Music Criticism:* three from Music 17, 113, 114, 115, 135.

Preprofessional programs: Students interested in professions such as music therapy, concert management, or music education may incorporate music courses with appropriate courses from other disciplines in an individually-designed major. The requirements for such preprofessional programs are jointly determined by the student and an advisory committee made up of one music faculty member (who serves as chair) and two faculty members from other disciplines.

Although the music program does not offer specific courses in music education, music majors interested in music education may take courses in music curriculum and practice teaching through the Education Department.

NONMAJORS:

All of the courses, seminars, and activities in the music program are open to qualified nonmajors.

Performing Organizations: Nonmajors and majors may audition for a variety of organizations, including the Clark Concert Choir, the Worcester Consortium Orchestra, Instrumental Chamber Ensembles, and the Jazz Workshop.

Private Lessons for majors and nonmajors are offered with or without credit in several areas. See Music 180 and 18 course descriptions.

Placement Test: Prospective students considering a music major are urged to contact the program director to arrange for a placement test, which may be administered through Clark or through an authorized person at the student's current place of study. Although not required, this test enables the faculty to assess the student's present musical development and offer more informed advice. In some cases, it is possible to offer advanced theory placement as a result of the test.

Auditions: Students who wish to follow a performance concentration should arrange for an audition by contacting the program director.

INTRODUCTORY COURSE

10 INTRODUCTION TO MUSIC/Lecture, Discussion

Designed for the nonmajor, the goal of the course is to expand the concept of the musical experience and to develop discriminating listeners. Taught jointly by several faculty members, it also provides an introduction to the music program. The course includes an introduction to principles of rhythm, pitch, timbre (and their

notations); the principles of structure; the aesthetics of music; specific forms including fugue, sonata form, variations, and selected historical styles.

Staff

Offered every semester

MUSIC HISTORY

11 MEDIEVAL AND RENAISSANCE PERIODS/Lecture, Discussion

Beginning with early Christian chant, this survey includes a study of the medieval song and motet, and the growth of polyphonic secular and sacred music extending through the sixteenth century, culminating with the study of the Renaissance mass and madrigal. When possible, works are performed in class, and scores are used for the majority of works studied.

Mr. Castonguay

Offered every other year

12 BAROQUE PERIOD/Lecture, Discussion

A survey of music from 1600 to 1750, the course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class, and scores are used for works studied.

Mr. Castonguay

Offered every other year

13 CLASSICAL PERIOD/Lecture, Discussion

This survey of music from the 1720s to the early decades of the nineteenth century focuses on the Italian, French, and Viennese styles. Special emphasis is given to the music of Haydn, Mozart, and Beethoven and the important musical genres of chamber music, symphony, and opera.

Mr. Castonguay

Offered every other year

14 ROMANTIC PERIOD/Lecture, Discussion

Surveys the music of the major composers of the nineteenth century. The musical style and selected works of Schubert, Mendelssohn, Schumann, Chopin, Brahms, Tchaikovsky, Wagner, and others are studied and placed within the literary and artistic setting of nineteenth-century society.

Mr. Castonguay

Offered every other year

15 TWENTIETH-CENTURY MUSIC I/Lecture, Discussion

A survey of early twentieth-century masterworks. Representative composers include: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Prerequisite: 10 or 120.

Staff

Offered every other year

16 TWENTIETH-CENTURY MUSIC II/Lecture, Discussion

A study of important works composed primarily since 1950. Composers include Stravinsky, Cage, Carter, Boulez, Messiaen, Stockhausen, and others. Prerequisite: 10 or 120.

Mr. Fuller

Offered every other year

17 THE MUSIC OF JOHANNES BRAHMS/Lecture, Seminar

The course considers Brahms as man and musician in the latter half of nineteenth-century Vienna, and surveys his chamber and orchestral music, lieder, and keyboard works. Whenever possible, are performed live in class.

Mr. Castonguay

Offered periodically

19 WORLD MUSIC/Lecture, Seminar

Students study and listen to the differences and likenesses in music from a wide variety of cultures and consider the ways in which music, ranging from classical art music to music for work and communal celebration, functions within cultures. Musics of India, Africa, Japan, China, and Iran are some of the recurring areas. Guest performers of ethnic music are part of the course.

Mr. Fuller Offered every other year

20 CHAMBER MUSIC/Lecture, Seminar

A survey of selected works of the major composers in the field of chamber music from Haydn to Stravinsky. Trips to concerts in the area are made whenever feasible.

Mr. Castonguay Offered periodically

113 J.S. BACH AND HIS MUSIC/Lecture, Seminar

Investigates the social, historic, and cultural setting of Bach's era and encompasses study of his music, including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works are performed in class and scores are provided for the majority of works studied.

Mr. Castonguay Offered every other year

114 BEETHOVEN: THE MAN AND HIS MUSIC/Lecture, Seminar

Explores the social and historical background of Beethoven's Vienna and centers on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career.

Mr. Castonguay Offered every other year

115 AMADEUS: THE LIFE AND MUSIC OF W.A. MOZART/Lecture, Seminar

Explores the music and life of Mozart from his early years as a child prodigy to his mature years as an outstanding genius and struggling artist in Vienna. Studies include selected masterworks from his symphonies, piano concertos, operas, piano sonatas, and chamber music.

Mr. Castonguay Offered periodically

118 SENIOR TUTORIAL IN MUSIC HISTORY

For majors only. Full course. Prerequisite: permission of instructor.

Staff Offered every semester

With permission of the program director, the following courses offered by other departments may be taken for music history, criticism, and theory credit.

German 168 MUSIC IN GERMAN LITERATURE AND THOUGHT

See listing under Foreign Languages and Literatures.

German 197 THE FAUST THEME IN LITERATURE AND MUSIC

See listing under Foreign Languages and Literatures.

MUSIC THEORY

120 BASIC SKILLS I/Lecture, Tutorial, Lab

This beginning course in the fundamentals of music requires no previous musical training. Students learn to understand, hear, recreate, and write the basic elements of the pitch and rhythmic notation system, including scales, keys, and elementary melodic and harmonic organization. Skill training begun in this course enables the

student to pursue more successfully private instrumental or vocal instruction, and to begin work in composing and arranging.

Mr. Fuller

Offered every year

121 BASIC SKILLS II/Lecture, Tutorial, Lab

Continuation of *Basic Skills I*. A study of basic tonal harmony through the secondary dominant. Small form composition and analysis in the various textures: homophony (chorale), monody (melody plus accompaniment), and two-voice counterpoint. Eartraining and musicianship lab weekly.

Staff

Offered every year

122 THEORY: MODAL COUNTERPOINT/Lecture, Tutorial

Contrapuntal styles in two, three, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121.

Staff

Offered every other year

123 THEORY: EIGHTEENTH-CENTURY COUNTERPOINT/Lecture, Tutorial

Compositional and analytical problems in the eighteenth-century contrapuntal idiom, two- and three-part inventions, canon, and fugue. The thoroughbass practice of the seventeenth- and eighteenth-centuries is explored. Final project: the composition of a three- or four-voice fugue. Prerequisite: 121.

Staff

Offered every other year

124 THEORY: NINETEENTH-CENTURY PRACTICE/Lecture, Tutorial

Deals with problems in analysis, composition, and orchestration in the chromatic style of the nineteenth century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. The harmonic language of impressionism, with its emphasis on scalar control, also is examined. Prerequisite: 121.

Staff

Offered every other year

125 THEORY: TWENTIETH-CENTURY PRACTICE/Lecture, Tutorial

Compositional techniques of major twentieth-century composers are analyzed and used as a basis for compositional assignments. Prerequisite: 124 or permission of instructor.

Mr. Fuller

Offered every other year

128 SENIOR TUTORIAL IN COMPOSITION

For majors only. Full course. Prerequisite: permission of instructor.

Staff

Offered every semester

131 JAZZ THEORY/Lecture, Tutorial

Includes a study of the rhythmic/harmonic/melodic structures of jazz, the scalar basis of improvisation, and voicing practice as it pertains to scoring for small and large ensembles. Prerequisite: 120 or passing of placement examination in rudiments.

Staff

Offered every other year

132 JAZZ HISTORY/Lecture, Tutorial

Centers on a study of the evolution of jazz style from its nineteenth-century beginnings to the present day: African roots, minstrels, ragtime, Dixieland, swing,

bop, progressive, cool, free-form, and third-stream. A research paper and a final exam are required. Half course.

Staff

Offered every other year

133 TUTORIAL IN JAZZ COMPOSITION

The student writes original scores for performance by workshop ensemble. Prerequisite: 131 and permission of instructor.

Staff

Offered every year

138 SENIOR TUTORIAL IN THEORY

For majors only. Full course. Prerequisite: permission of instructor.

Staff

Offered every semester

SPECIAL OFFERINGS

90 DIRECTED STUDIES IN ELECTRONIC MUSIC/Studio, Lecture, Discussion

Advanced work in any of the main areas of electronic music: composition, hardware or software design, psychoacoustics. Work may center on either analog (synthesizer) or computer music. Resources of the Tri-College Electronic Music Program are made available to students. Prerequisite: 140 or permission of instructor.

Mr. Fuller

Offered every year

91 COMPUTER GENERATED SOUND/Studio, Lecture, Discussion

Course in which basic theory of how a computer generates sound is studied, along with the principal synthesis techniques used in computer music. Students learn to use a particular computer music program and produce taped examples of assignments. The main studio is built around a Digital MicroVax II, and the class is also introduced to a MIDI-studio using a personal computer and Yamaha sound synthesis keyboards and modules. Small group tutorials are given in the studios, each student has his own hours in the studios, and individual projects are developed in the last weeks of the course. Students should have either some music or some computer background. By permission.

Mr. Fuller

Offered every year

135 MUSIC AND SOCIETY/Seminar

Studies the effects that institutions, whether governmental, religious, economic, or sociomusical, have upon the artistic and personal life of the composer. Projects focus on periods and composers decided upon by the students and the instructor. Nonmajors and majors welcome.

Mr. Castonguay

Offered periodically

140 INTRODUCTION TO ELECTRONIC MUSIC/Studio, Lecture, Discussion

Explores electronic music as a natural, historical, and artistic result of twentieth-century musical and technological achievements. A group of important musical works is studied. Directed work in the analog synthesizer studios is a major component. Team-taught by two composers and a physicist.

Mr. Fuller and faculty members of the

Tri-College Group for Electronic Music

Offered every year

141 SOUND INVENTION WORKSHOP/ELECTRONIC

A studio workshop that instructs students in the use of the Clark Electronic Music Studio's sound making and processing equipment. Members of the workshop acquire basic skills of synthesizer use, taping, and mixing, and develop a personalized

project, such as a soundtrack for a film or videotape, a tape music composition, music for a theatrical event, or sounds for visual installations. Prerequisite: permission of instructor.

Mr. Fuller

Offered periodically

2991 DIRECTED READINGS

2995 SPECIAL PROJECTS

2996 SPECIAL TOPICS

2999 INTERNSHIP

PERFORMANCE COURSES

180 PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE

Areas offered include: piano (Ms. LaPlante, Mr. Linder), jazz piano (Mr. Mueller), voice (Ms. Lykes), clarinet (Mr. Linder), flute (Ms. Stumpf), classical guitar (Mr. Sullivan), violin (Mr. Maxman), and conducting (Mr. Maxman, Mr. McConville). Lessons are for credit. In areas not currently offered at Clark, the Music Program will find a qualified instructor. Award of credit in the off-campus study requires special permission from the Music Program director. No credit is awarded for off-campus study in those areas currently available at Clark. Maximum number of credits and tuition coverage:

- Majors in theory, composition, or history emphasis: four credits covered by tuition
- Majors in the performance concentration: six credits covered by tuition
- Music concentration or specialization: three credits covered by tuition.

Staff

Offered every semester

18 PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE

Lessons are taken for noncredit. Areas offered: same as 180 above. Lessons taken for noncredit require no prerequisite, and the fee is not covered by tuition.

Staff

Offered every semester

130 JAZZ WORKSHOP/Rehearsal, Performance

Includes ensemble performance practice with weekly rehearsals throughout the year. An audition is required. Credit is possible for those concurrently enrolled in, or having previously passed, 131. Maximum transcript credit allowed is one full course; offered as a half course.

Staff

Offered every semester

134 CHORAL MUSIC AND CONDUCTING/Lecture, Tutorial

Styles of choral music from different periods are studied with the aid of scores and recordings. Students learn basic choral conducting techniques. Prerequisite: 121 or permission of instructor.

Staff

Offered periodically

148 SENIOR TUTORIAL FOR PERFORMANCE CONCENTRATION

Majors concentrating in performance analyze historically and theoretically the music they will perform in their senior recital. A term paper is required.

Staff

Offered every semester

The following musical activities are open to all undergraduate and graduate students. Auditions are held during the first week of Semester 1. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity for which he or she was registered.

107 CHAMBER MUSIC ENSEMBLES/Rehearsal, Performance

The number of small ensembles is determined by the performing talent in a given year. Admission is by audition.

Mr. Maxman

Offered every semester

117 CLARK CHAMBER CHORUS/Rehearsal, Performance

This is a small, specialized singing group chosen by the conductor from the larger Clark Concert Choir. Admission is by audition.

Mr. McConville

Offered every semester

127 CLARK CONCERT CHOIR/Rehearsal, Performance

A chorus of 40 to 50 voices, the choir presents two major concerts each year on the Clark campus as well as off campus appearances.

Mr. McConville

Offered every semester

137 WORCESTER CONSORTIUM ORCHESTRA/Rehearsal, Performance

Made up of students from various consortium institutions and instrumentalists from the community, the orchestra presents two major concerts each year. Admission is by audition

Mr. Maxman

Offered every semester

SCREEN STUDIES

PROGRAM FACULTY

Philip Rosen, Ph.D., *program director*: screen theory and criticism, U.S. cinema, international screen history

ADJUNCT FACULTY

Marcia Butzel, Ph.D.: French cinema, Italian cinema, screen theory and criticism

Marvin A. D'Lugo, Ph.D.: Spanish and Latin American cinema

Walter Schatzberg, Ph.D.: German cinema

Michael K. Spingler, Ph.D.: French cinema

UNDERGRADUATE PROGRAM

The Screen Studies Program deals with arts and artifacts of the moving two-dimensional image, usually combined with sound, it is concerned, in other words, with the study of film, broadcast television, and other forms of video. The program stresses the importance of a liberal arts background, for the screen arts touch upon and are affected by all sectors of contemporary culture and society. Classes provide a core of basic and advanced knowledge of the screen arts and media, while encouraging students to explore diverse connections and influences, ranging from the visual arts, drama, literature, and aesthetics to sociology, psychology, history, and economics.

Nonmajors take screen studies courses for many different reasons: to acquire knowledge that relates to their interests in other disciplines, to gain a better understanding of the roles film and television play in their everyday lives, or to understand the importance of the screen media as cultural and artistic forms. Those considering careers in the screen arts or related areas usually major in screen studies. In addition to being of special benefit for those planning graduate study or a career in the communications fields, the major also may be of interest to those seeking a liberal arts education that speaks directly to questions of contemporary life, culture, and the arts.

Students interested in film and video production may take the Studio Art Program's production courses and/or gain production experience through professional internships.

Requirements for the Screen Studies Major:

1. A minimum of 10 courses in screen, including
 - a. 101, *Introduction to Screen Studies* (to be taken as early as possible).
 - b. At least three screen history courses, including a minimum of two of the following: 120, *History of American Narrative Film*; 121, *Survey of International Film Movements*; 122, *History of Broadcasting and Television*.
 - c. At least one screen theory course (usually 231, *Film Theory* or 232, *Television Theory and Criticism*).
 - d. An advanced topics course resulting in a major term paper. (Usually 290, *Advanced Problems in Screen Studies*, or 2995, *Special Project*, when the latter results in original research or intensive critical analysis or intensive theoretical reading and analysis).
 - e. One practicum course, normally Studio Art 166, *Screen Production—Film* or Studio Art 167, *Screen Production—Video*. No more than two practicum courses may count toward the minimum of ten screen courses required for the major. (If students do take additional practicum courses, they will count toward graduation, but not toward the major.)
2. Demonstrated competence in an outside area pertinent to the student's particular emphasis in screen studies. The student demonstrates competence in an outside area by accomplishing one of the following:
 - a. Completing requirements for a double major, or,
 - b. Completing five courses that together form a mutually coherent group—disciplinary or interdisciplinary—related to screen studies. At least three of the courses should be advanced. Courses forming the outside area are chosen on the basis of consultation with and approval by the major adviser.

Note: The courses listed below are designated as lecture, discussion, or seminar. However, all screen studies courses include viewing of films and/or television programming. Students are usually required to attend separate screening periods in addition to lecture, discussion, or seminar sessions.

101 INTRODUCTION TO SCREEN STUDIES/Lecture, Discussion

Introduction to screen arts, with emphasis on critical thought and analysis. Special attention is paid to styles and forms used to organize image and sounds in individual works, and to critical analysis and theoretical argumentation. Fulfills prerequisites for advanced screen studies courses.

Mr. Rosen, Staff

Offered every semester

120 HISTORY OF AMERICAN NARRATIVE FILM/Lecture, Discussion

Intensive overview of the national cinema which has been strongest socially and economically, and which is also often regarded as the most influential in an aesthetic sense. Consideration of "Hollywood" film-making from social, economic, and aesthetic viewpoints.

Mr. Rosen, Staff

Offered every other year

121 SURVEY OF INTERNATIONAL FILM MOVEMENTS/Lecture, Discussion

Broad survey designed to acquaint students with major foreign movements in cinema history. Includes readings on and screenings of examples selected from Italian silent epics, early Scandinavian cinema, German Expressionist and Weimar cinema, Soviet montage school, Soviet socialist realism, British documentary

school, Nazi cinema, Italian neo-realism, Japanese classical cinema, French New Wave, post-New Wave political cinema, Third World cinema, New German Cinema, various Eastern European schools.

Mr. Rosen, Staff

Offered every other year

122 HISTORY OF BROADCASTING AND TELEVISION/Lecture, Discussion

Overview of the history of the broadcast media, from the invention of radio through the development of the television networks and cable transmission. Attention is paid to the aesthetics of the medium, typical programming characteristics, social implications of broadcast materials, and the economic-industrial infrastructure of broadcasting.

Staff

Offered every year

147 FILMS OF LUIS BUNUEL

See listing under Spanish 147.

148 INTRODUCTION TO THE CINEMA OF LATIN AMERICA

See listing under Spanish 148.

149 FILMS OF CARLOS SAURA

See listing under Spanish 149.

150 NEW GERMAN CINEMA

See listing under German 150.

151 SOCIOLOGY OF MASS COMMUNICATIONS

See listing under Sociology 151.

155 STUDIES IN ITALIAN FILM: NEOREALISM

See listing under Comparative Literature 155.

160 FRENCH CULTURE SEEN THROUGH FILM: FILMS OF JEAN RENOIR

See listing under French 160.

163 HISTORY OF FRENCH CINEMA BEFORE WORLD WAR I

See listing under French 163.

188 THE CULTURE OF THE WEIMAR REPUBLIC IN LITERATURE, FILM AND THE ARTS

See listing under German 188.

191 STUDIES IN COMPARATIVE CULTURE: FRENCH VS. AMERICAN TELEVISION

See listing under Comparative Literature 191.

205 FEMINIST FILM THEORY AND CRITICISM

See listing under Comparative Literature 205.

231 FILM THEORY/Lecture, Seminar

Examines major works of film theory, both classical and contemporary. Readings are drawn from the work of Eisenstein, Bazin, Munsterburg, Arnheim, Burch, Benjamin, Adorno, Kracauer, Metz, Baudry, Heath, Mulvey, Wollen, Bordwell, and others. Prerequisite: 101 or permission of instructor.

Mr. Rosen

Offered every other year

290 ADVANCED PROBLEMS IN SCREEN STUDIES/Seminar

Advanced studies of specific issues and approaches in the study of the screen arts. Topics vary each time the course is offered. Sample topics: Brechtian cinema; inventing the feature film; Eisenstein as theoretician, filmmaker, and historical figure; the idea of a national cinema and non-Western filmmaking. Students produce a major term paper. Prerequisite: 101 or permission of instructor.

Staff

Offered every other year

2991 DIRECTED READINGS

Staff

2995 SPECIAL PROJECTS

Staff

2999 INTERNSHIP

Staff

THEATRE ARTS

PROGRAM FACULTY

Raymond J. Munro, M.A.H., *program director*: directing, acting theory, independent narrative video

Neil R. Schroeder, Ph.D., *program director*: theater history and criticism, modern drama, Ibsen, speech

PART-TIME FACULTY

Gino Dilorio, M.F.A.: acting

Ann Janowsky, M.F.A.: acting, directing

Lauren J. Kurki, B.F.A.: scene and costume design, technical theater

ADJUNCT FACULTY

James F. Beard Jr., Ph.D.

Kenneth Hughes, Ph.D.

Hartmut Kaiser, Ph.D.

Catherine Quick Spingler, M.A.

Michael K. Spingler, Ph.D.

Virginia Vaughan, Ph.D.

UNDERGRADUATE PROGRAM

Courses in theater arts—open to majors and nonmajors—provide students with a sound liberal education and prepare them for graduate school or professional theater. Each year, the program presents professionally directed productions of classic and contemporary theater; although any Clark student may audition, students who take theater arts courses are required, as part of their course work, to participate in these productions. There are also opportunities for students to act and direct in classes, workshops, and student-sponsored productions, and to audition

for Clark Center for Contemporary Performance productions.

The Clark Center for Contemporary Performance is a scholarly community of directors, composers, playwrights, choreographers, film/video makers, and critics devoted to the creation, development, and publication of contemporary works of art as well as to theoretical reflection about the works and their performance. The range of such work includes new scripts, original compositions or scores, translations, transformation of poetry into performance pieces, and explorations of the intersection of music, dance, and video in the performance of existing works.

The center is designed to enhance the academic work of the University by organizing and focusing advanced learning through seminars and directed study in music, theater, film, design, literature, and aesthetics. Advanced students are encouraged to develop creative and theoretical projects within the center, so that they may take full advantage of the critical evaluation and supervision available, and enrich their educational experience through contact with faculty, other students, and outside artists and performing groups.

The theater arts major can concentrate in one of two areas: theater history and criticism, or performance and production.

The Theater Arts Major in History and Criticism consists of:

1. Required:

110 *How Does a Play Work?*

One course in acting (usually TA 112)

One course in technical theater or design (usually TA 120)

1511 *Theater in Western Civilization I*

1512 *Theater in Western Civilization II*

2. At least four additional courses in theater history, dramatic literature, criticism, and aesthetics.

In addition, mastery of at least one foreign language is strongly recommended.

The Theater Arts Major in Performance and Production consists of:

1. Required:

112 *The Creative Actor*

113 *Actor as Thinker*

120 *Basic Technical Theater*

1511 *Theater in Western Civilization I*

1512 *Theater in Western Civilization II*

2. At least four courses from the following:

111 *Voice and Diction*

116 *Movement for the Theater*

117 *Advanced Movement for the Theater*

122 *Basic Technical Theater II*

123 *Design for Performance*

165 *French Dramatic Expression*

167 (Studio Art) *Screen Production—Video*

213 *Studio* (may be repeated)

219 *Directing Seminar*

Note: 111, 116, and 213 are required for actors and directors. In addition, it is suggested that students who are seriously interested in acting or directing attempt to master at least one foreign language.

COURSES

110 HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING/ Lecture, Discussion

Explores a small group of plays representing several styles, modes, and eras of Western drama, with special emphasis on formal analysis—study of the form and structure of each play. By means of class discussion, the oral interpretation of scenes from the plays, and the reading of critiques, which illustrate various critical approaches to the drama, the student is encouraged to arrive at a personal evaluation of the plays. This course satisfies the *verbal expression* skill in the Program of Liberal Studies. No prerequisite. Several short papers.

Mr. Schroeder

Offered every year

111 VOICE AND DICTION/Studio, Tutorial

An intensified phonetic approach to articulation and voice production with some emphasis on speech for the stage and for public occasions. Each student is required to master the International Phonetic Alphabet to the point where it is an effective tool for ear training and articulation. Several laboratory sessions are provided for the student to record and listen to his/her voice and for individual coaching by the instructor. No prerequisites.

Mr. Schroeder

Offered every other year

112 THE CREATIVE ACTOR/Studio

Through a series of workshops, the student becomes familiar with the basic tools necessary to the art of acting. The approach is based on the techniques of Stanislavski, Viola Spolin, Joseph Chaikin, Robert Cohen, and original exercises, including an introduction to basic voice and movement for the actor. No prerequisite. Limited to 25.

Mr. Munro, Ms. Janowsky, Mr. DiIorio

Offered every semester

113 ACTOR AS THINKER/Studio, Lecture, Discussion

A conceptual approach to acting theory and its application. Through a series of lectures and exercises, the student develops a greater understanding of script analysis, characterization, style, and the relationship of the actor to the audience. A basic course for all students who intend to continue in acting and directing, and a prerequisite for the *Studio* and *Directing Seminar* courses. Prerequisite: 112. Limited to 15.

Mr. Munro

Offered every semester

116 MOVEMENT FOR THE THEATER I/Studio

An exploration of mind/body integration issues, aimed to increase students' understanding and skills of physical freedom and expression. Tools and techniques for developing basic skills of awareness, observation, concentration, and release of habitual tension are practiced and discussed. Physical approaches to acting are explored as well as elements of dance and movement composition.

Staff

Offered every year

117 MOVEMENT FOR THE THEATER II/Studio

The ideas and techniques of *Movement for the Theater I* are addressed and explored in greater depth. Increased emphasis is placed on the creative process, and students

develop movement compositions and scene work with a physical approach. Issues of responsibility and performance also are addressed. Prerequisite: 116 or permission of the instructor.
Staff
Offered every year

119 PUBLIC SPEAKING/Studio

Students are required to make as many speeches as time permits so that they may master the fundamentals of public speaking, including the more common situations: presentation of information and persuasive speaking. No prerequisite.
Mr. Schroeder
Offered every year

120 BASIC TECHNICAL THEATER/Studio, Lecture

Introduction to theatrical production. Techniques and organization involved in providing the stage with scenery, lights, and properties. Drafting of these elements is introduced, as well as scaled ground plans and other stage data. Makeup, lighting, and set construction in applied lab/crew requirements.
Ms. Kurki
Offered every year

122 TECHNICAL THEATER II/Studio, Lecture

Continuation of 120. Beginning elements of design and styles of production. Basics of perspective and methods of pictorial representation. Continued focus on specific elements of scenery, lighting, and properties in relation to theater facilities, materials, and equipment. Lab/crew assignments.
Ms. Kurki
Offered every year

123 DESIGN FOR PERFORMANCE/Studio, Tutorial

Course emphasis is on the theory of design, the function of the stage designer, and their relationship to production and to the director. Historical research in styles of ornament and production. Student may register with emphasis on scenery, lighting, properties, or costume/makeup design. Painting and rendering introduced. Lab/crew assignments. May be repeated for credit. Prerequisite: 120 and 122, or permission of the instructor.
Ms. Kurki
Offered every year

125 SCENERY AND COSTUME PROJECTS/Studio, Tutorial

Intermediate-level projects in design research and three-dimensional execution for theater production. Prerequisite: permission of the instructor.
Ms. Kurki
Offered every year

126 THE PHYSICAL THEATER/Studio, Lecture, Discussion

Study of theater architecture, alternate performance spaces, and contemporary installation projects/performance art in relation to their genus as scene design. Exploration of fashion as costume.
Ms. Kurki
Offered every other year

1511 THEATER IN WESTERN CIVILIZATION I/Lecture, Discussion

A survey of theater and drama from ancient Greece to the Renaissance. The course considers the form and substance of theatrical presentations and the study of several representative plays from each important era and national theatre. No prerequisite.
Mr. Schroeder
Offered every other year

1512 THEATER IN WESTERN CIVILIZATION II/Lecture, Discussion

A survey of theater and drama from the seventeenth century to the present, this is a continuation of 1511. No prerequisite.

Mr. Schroeder

Offered every other year

1541 MODERN DRAMA I/Lecture, Discussion

A survey of Western drama and theater from Ibsen to World War II. The course traces the development of modern realistic drama and early experimental reactions to realism. No prerequisite. At least three papers or exams.

Mr. Schroeder

Offered every other year

1542 MODERN DRAMA II/Lecture, Discussion

A survey of Western drama and theater from World War II to the present, which examines several of the major postwar movements and the radical dramatic forms they have produced. This course satisfies the *verbal expression* skill in the Program of Liberal Studies. No prerequisite. At least three papers or exams.

Mr. Schroeder

Offered every other year

155 ENGLISH DRAMA I/Lecture, Discussion

Refer to listing under English 122.

156 ENGLISH DRAMA II/Lecture, Discussion

Refer to listing under English 123.

164 THE AMERICAN MUSICAL THEATER/Lecture, Discussion

While some attention is paid to the history of the musical theater in the United States, primary emphasis in this course is on the study and analysis of several important contemporary musicals, and on the form and structure of books, lyrics, and music. No prerequisite. At least three papers, exams, or creative projects.

Mr. Schroeder

Offered periodically

165 FRENCH DRAMATIC EXPRESSION/Lecture, Discussion

Refer to listing under Foreign Languages and Literatures.

185 TENNESSEE WILLIAMS/Lecture, Discussion

An intensive study of the playwright's work concentrating on his development as an artist. Students evaluate his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected.

Mr. Schroeder

Offered periodically

213 STUDIO

A scene study course applying methods, theories, and approaches discussed in *Actor as Thinker* to working on stage, film, and video. Students are required to present several scenes of different periods and styles for discussion, critical written review, and further development by classmates and director. The content varies each time the course is taught. May be repeated for credit. Lab and crew hours are required. Prerequisite: 113.

Mr. Munro, Ms. Janowsky

Offered every semester

219 DIRECTING SEMINAR

Introduces the principles of directing for the stage through theory, practical application, and discussion. Students study problems of interpretation and concept; the role of the director as creative and interpretive artist; relationship to designer, stage manager, and actors. Additional lab time is required. Prerequisites: 113 and permission of instructor.

Mr. Munro Offered every year

2991 DIRECTED READINGS

Staff

2995 SPECIAL PROJECTS

Staff

2999 INTERNSHIP

Staff

With permission of the program director, the following courses offered by other departments may be taken for theater history and criticism credit:

Classics 135 CLASSICAL GREEK TRAGEDY

Refer to courses listing under Classics.

English 120 INTRODUCTION TO SHAKESPEARE

Refer to course listing under English.

English 253 ADVANCED STUDIES IN SHAKESPEARE

Refer to course listing under English.

French 170 THE MODERN FRENCH THEATER

Refer to course listing under Foreign Languages and Literatures.

German 127 DRAMATIC EXPRESSION IN GERMAN

Refer to course listing under Foreign Languages and Literatures.

German 138 MODERN GERMAN DRAMA

Refer to course listing under Foreign Languages and Literatures.

German 166 GERMAN DRAMA FROM LESSING TO BRECHT

Refer to course listing under Foreign Languages and Literatures.

Women's Studies

PROGRAM FACULTY

Sharon Perlman Krefetz, Ph.D., Government, *coordinator*: urban politics, suburban politics, women and politics

Maria Acosta Cruz, Ph.D., Foreign Languages and Literatures: Latin Americanist and comparative literature

Sandra Azar, Ph.D., Psychology: parenting, high-risk families, particularly child abuse

Marcia Butzel, Ph.D., Foreign Languages and Literatures: film and cultural studies
 Judith DeCew, Ph.D., Philosophy: ethics, philosophy of law and logic
 Cynthia H. Enloe, Ph.D., Government, *coordinator*: women and politics, militarization, Asian and black politics
 Rachel Joffe Falmagne, Ph.D., Psychology: logical cognition, logico-semantic development, women and psychology
 SunHee Kim Gertz, Ph.D., English: medieval literature, women in medieval Europe
 Bonnie Grad, Ph.D., Visual and Performing Arts: nineteenth- and twentieth-century American and European painting, history of landscape art
 Beverly Grier, Ph.D., Government: comparative politics, African politics
 Susan E. Hanson, Ph.D., Geography: urban-social geography, transportation
 Serena S. Hilsinger, Ph.D., English: modernist literature, women writers
 Ruth Harriet Jacobs, Ph.D., Sociology: gender, theory, field methods, gerontology
 Dorothy Kaufmann, Ph.D., Foreign Languages and Literatures: contemporary French feminism
 Raylene O'Callaghan, Ph.D., Foreign Languages and Literatures: contemporary French theory, contemporary French nouveau roman, French women writers
 Paul S. Ropp, Ph.D., History: women in China
 Christina Sommers, Ph.D., Philosophy: history of ethics, history of philosophy, contemporary moral theory
 Maren Stange, Ph.D., English: communications
 Elizabeth A. Stanko, Ph.D., Sociology: women and crime, qualitative methodology
 Shelly Tenenbaum, Ph.D., Sociology: Judaic studies, race/ethnicity, social stratification
 Barbara P. Thomas, Ph.D., International Development: community organization, women and public policy, rural development
 Roberta Tovey, Ph.D., English: Restoration and eighteenth-century literature, novel
 Virginia Vaughan, Ph.D., English: Shakespeare, Renaissance drama, Chaucer, medieval literature
 Marianne Wiser, Ph.D., Psychology: visual perception, cognitive development, especially concept acquisition
 Walter W. Wright, Ph.D., Philosophy: nineteenth-century philosophy, ethics, philosophy of religion, German idealism

PROGRAM

Undergraduates may concentrate in women's studies, in addition to their regular major. Clark recognizes the appropriateness of offering courses that reflect the concerns of women from the perspective of different disciplines. Each year, courses that speak to the social and political roles and cultural formulations of women's and men's positions in society are offered in a number of departments. Interested students are encouraged to design a concentration to supplement their traditional, disciplinary-based majors. This concentration will appear on their graduation transcript.

The following sequence of courses comprises a concentration for students in the Class of 1991 and subsequent years: A major in an established department or a self-designed major; *Introduction to Women's Studies*; four additional courses listed as part of the Women's Studies Program (it is strongly recommended that these include both social sciences and humanities); and an internship, special project, or advanced research seminar in women's studies.

The following is a partial list of Clark's women's studies course offerings; more information can be obtained from participating faculty or from the Women's Studies Office, AC 209, (508) 793-7358.

COURSES

INTRODUCTION TO WOMEN'S STUDIES

Refer to course description under Sociology 110.

Staff

Offered every year

COMPARATIVE POLITICS OF WOMEN

Refer to course description under Government 208.

Ms. Enloe, Ms. Grier

Offered every year

HISTORY OF AFRO-AMERICAN WOMEN/ Seminar

Refer to course description under Government 225/History 224.

Ms. Grier

Offered every other year

FICTION BY WOMEN WRITERS, 1688-1899

Refer to course description under English 133.

Ms. Hilsinger

Offered every other year

FEMINIST FILM THEORY AND CRITICISM

Refer to course description under Comparative Literature 205.

Ms. Butzel

Offered every other year

MODERN FICTION BY WOMEN WRITERS

Refer to course description under English 134.

Ms. Hilsinger

Offered every other year

WORKS OF VIRGINIA WOOLF AND T.S. ELIOT

Refer to course description under English 275.

Ms. Hilsinger

Offered every other year

MEDIEVAL LITERATURE

Refer to course description under English 150.

Ms. Gertz

Offered every year

WOMEN AND MILITARIZATION IN A COMPARATIVE POLITICS PERSPECTIVE

Refer to course description under Government 261.

Ms. Enloe

Offered every other year

THE COMPARATIVE POLITICS OF WOMEN AND LABOR/Seminar

Refer to course description under Government 262.

Ms. Enloe

Offered every other year

WOMEN AND POLITICS

Refer to course description under Government 175.

Ms. Krefetz

Offered every year

SOCIOLOGY OF WOMEN'S WORK

Refer to course description under Sociology 209.

Staff

Offered every other year

WOMEN AND CRIME

Refer to course description under Sociology 210.

Ms. Stanko

Offered every year

AMERICAN JEWISH LIFE

Refer to course description under Sociology 203.

Ms. Tenenbaum

Offered every year

SOCIOLOGY OF SEX ROLES

Refer to course description under Sociology 225.

Staff

Offered every other year

THE FAMILY

Refer to course description under Sociology 255.

Staff

Offered periodically

JANE AUSTEN/Seminar

Refer to course description under English 261.

Ms. Tovey, Staff

Offered periodically

WOMEN IN SOCIETY/ Seminar

Refer to course description under Psychology 249.

Ms. Joffe Falmagne

Offered every other year

WOMEN AND SOCIAL CHANGE

Refer to course description under International Development 212.

Ms. Thomas

Offered every other year

FIELDWORK SEMINAR IN WOMEN'S STUDIES

Refer to course description under Sociology 227.

Staff

Offered every year

SEMINAR IN FEMINIST ISSUES

Staff

Offered periodically

HISTORY OF AMERICAN WOMEN

Refer to course description under History 219.

Staff

Offered periodically

CHINESE WOMEN IN LITERATURE AND SOCIETY

Refer to course description under History 282.

Mr. Ropp

Offered periodically

WOMEN IN HISPANIC LITERATURE

Refer to course description under Spanish 136.

Ms. O'Connell, Staff

Offered every other year

THE FAMILY AND SEX ROLES IN CROSS-CULTURAL PERSPECTIVE

Refer to course description under International Development 128.

Mr. Gerber

Offered every year

COMPARATIVE POLITICS OF RACE, ETHNICITY AND GENDER

Refer to course description under Government 228.

Ms. Enloe

Offered every other year

WOMEN'S WRITING IN CONTEMPORARY FRANCE

Refer to course description under Comparative Literature 215.

Ms. Kaufmann

Offered every other year

Faculty

Members of the faculty and officers (appointed for the academic year as of July 1, 1988) are listed alphabetically with their titles, degrees, and years at Clark.

PRESIDENT

RICHARD P. TRAINA, Ph.D., President of the University. B.S., University of Santa Clara, 1958; M.A., University of California, Berkeley, 1960; Ph.D., 1964. (1984 -)

EMERITI

HARRY C. ALLEN JR., Ph.D., Professor of Chemistry, Emeritus. B.S., Northern University, 1948; Sc.M., Brown University, 1949; Ph.D., University of Washington, 1951. (1969 - 86)

KARL O.E. ANDERSON, Ph.D., Professor of English, Emeritus. A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945 - 76)

MORTIMER H. APPELEY, Ph.D., President, Emeritus; Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950; D.Sc., York University, 1975; L.H.D., Northeastern University, 1983; Litt. D., American International College, 1984; LL.D., Clark University, 1984. (1974 - 83)

KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus. (1950 - 1974)

RAYMOND E. BARBERA, Ph.D., Professor of Romance Languages, Emeritus. A.B., Brooklyn College, 1947; A.M., University of Arizona, 1948; Doctor en Letras, Universidad Nacional de Mexico, 1949; Ph.D., University of Wisconsin, 1958. (1953 -)

ROBERT F. CAMPBELL, Ph.D., Professor of American History, Emeritus. A.B., Yale University, 1939; A.M., Columbia University, 1940; Ph.D., 1947. (1946 - 1957; 1960 -)

WILLIAM H. CARTER JR., Ph.D., Professor of English, Emeritus. A.B., Middlebury College, 1936; A.M., Harvard University, 1938; Ph.D., 1951. (1949 - 1984)

PAUL S. CLARKSON, J.D., Curator, Emeritus. (1969 - 1979)

LYDIA P. COOK, B.S., Registrar, Emeritus. (1932 - 1966)

MORRIS H. COHEN, Ph.D., Professor of Government, Emeritus. A.B., University of Chicago, 1939; Ph.D., 1950. (1947 - 1984)

SAMUEL P. COWARDIN III, Ph.D., Associate Professor of Art History, Emeritus. A.B., Harvard University, 1943; A.M., 1948; Ph.D., 1963. (1949 - 86)

JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957 - 1975)

TAMARA DEMBO, Ph.D., Associate Professor of Psychology, Emeritus. (1953- 1972)

PETER P. GIL, Ph.D., Professor of Management, Emeritus. A.B., Harvard University, 1949; M.B.A., Harvard Business School, 1951; Ph.D., University of Geneva, 1963. (1981 - 1988)

- GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942 - 1971)
- SHERMAN S. HAYDEN, Ph.D., Professor of International Relations, Emeritus. (1946 - 1973)
- J. FANNIN KING, M.A., Associate Professor of Romance Languages, Emeritus. Adviser to International Students. A.B., Pomona College, 1936; A.M., Harvard University, 1937. (1946 - 1985)
- DUANE S. KNOS, Ph.D., Professor of Geography, Emeritus. B.A., Upper Iowa College, 1947; M.A., University of Iowa, 1953; Ph.D., 1956. (1970 - 1987)
- RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus. (1946 - 1968)
- J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus. (1944 - 1976)
- HARRY E. SCHWARZ, B.C.E., P.E., Professor of Environment, Technology and Society, Emeritus. B.C.E., George Washington University, 1954. (1973 - 1987)
- SEYMOUR WAPNER, Ph.D., Chair, Executive Committee, Heinz Werner Institute; G. Stanley Hall Professor of Genetic Psychology, Emeritus. A.B., New York University, 1939; A.M., University of Michigan, 1940; Ph.D., 1943. (1948 - 88)

FULL-TIME INSTRUCTIONAL FACULTY

(See individual departments for other appointments)

- SALMAN ABDULALI, Ph.D., Visiting Assistant Professor of Mathematics and Computer Science. M.Sc., Biria Institute of Technology and Science (India), 1980; Ph.D., State University of New York, Stony Brook, 1985. (1987 -)
- MARIA I. ACOSTA CRUZ, Ph.D., Assistant Professor of Spanish. B.A., University of Puerto Rico, Mayaguez, 1978; M.A., State University of New York at Binghamton, 1980; Ph.D., 1984 (1986 -)
- VERNON AHMADJIAN, Ph.D., Professor of Biology. A.B., Clark University, 1952; A.M., 1956; Ph.D., Harvard University, 1960. (1959 - 1968; 1969 -)
- ROY S. ANDERSEN, Ph.D., Professor of Physics. A.B., Clark University, 1943; A.M., Dartmouth College, 1948; Ph.D., Duke University, 1951. (1960 -)
- DAVID P. ANGEL, M.A., Assistant Professor of Geography. B.A., Cambridge University (England), 1980; M.A., University of California, Los Angeles, 1984. (1987 -)
- SANDRA T. AZAR, Ph.D., Assistant Professor of Psychology. B.A., Wheaton College, 1974; M.A., University of Rochester, 1982; Ph.D., 1984. (1986 -)
- ROBERT W. BAKER, Ph.D., Professor of Psychology; Director, Psychological Services Center. A.B., Hobart College, 1947; Ph.D., Clark University, 1953. (1954 -)

- MICHAEL BAMBERG, Ph.D., Assistant Professor of Psychology. M.Phil.; University of York, England, 1978; Ph.D., University of California, Berkeley, 1985. (1986 -)
- RICHARD J. BARTKOWSKI, Ph.D., Assistant Professor of Accounting. B.S., King's College, 1973; Ph.D., University of Pittsburgh, 1982. (1984 -)
- DAVID A. BAUCUS, Ph.D., Assistant Professor of Management. B.S., Indiana University, 1982; M.B.A., 1986; Ph.D., 1987. (1987 -)
- MELISSA S. BAUCUS, Ph.D., Assistant Professor of Management. B.S., Indiana University, 1981; M.B.A., 1986; Ph.D., 1987. (1987 -)
- ROGER BIBACE, Ph.D., Professor of Psychology. A.B., University of British Columbia, 1949; Ph.D., Clark University, 1957. (1957 -)
- GEORGE A. BILLIAS, Ph.D., Jacob and Frances Hiatt Professor of American History. A.B., Bates College, 1948; A.M., Columbia University, 1949; Ph.D., 1958. (1962 -)
- S. LESLIE BLATT, Ph.D., Professor of Physics, Dean of the Graduate School and Coordinator of Research. A.B., Princeton University, 1957; M.S., Stanford University, 1959; Ph.D., 1965. (1987 -)
- CHARLES S. BLINDERMAN, Ph.D., Professor of English, Adjunct Professor of Biology. A.B., New York University, 1952; A.M., 1953; Ph.D., Indiana University, 1957. (1962 -)
- JOHN BLYDENBURGH, Ph.D., Professor and Department Chair of Government and International Relations. B.A., Harpur College, 1965; Ph.D., University of Rochester, 1969. (1975 -)
- DANIEL R. BORG, Ph.D., Professor of European History. A.B., Gustavus Adolphus College, 1953; A.M., Yale University, 1957; Ph.D., 1963. (1961 -)
- MARTYN J. BOWDEN, Ph.D., Professor of Geography; Adjunct Professor of Comparative Literature. B.A., London University, 1957; M.A., University of Nebraska, 1959; Ph.D., University of California, Berkeley, 1967. (1964 -)
- ROBERT C. BRADBURY, Ph.D., Associate Professor of Management. B.S., Holy Cross College, 1967; M.S. in Administration, George Washington University, 1971; M.S. in Preventive Medicine, Ohio State University, 1973; Ph.D., 1975. (1981 -)
- DAEG S. BRENNER, Ph.D., Professor of Chemistry. B.S., Rensselaer Polytechnic Institute, 1960; Ph.D., Massachusetts Institute of Technology, 1964. (1967 -)
- JOHN J. BRINK, Ph.D., Professor of Biology. B.Sc., University of Orange Free State, 1955; B.Sc. (Hons), University of Witwatersrand, 1956; Ph.D., University of Vermont, 1962. (1966 -)
- HALINA S. BROWN, Ph.D., Associate Professor of Environment, Technology and Society. B.Sc., Washington University, 1971; Ph.D., New York University, 1975. (1985 -)
- JOHN C. BROWN, Ph.D., Assistant Professor of Economics. B.A., University of Wisconsin, 1978; M.A., University of Michigan, 1984; Ph.D., 1986. (1986 -)

- ROBERT M. BROWN, Ph.D., Assistant Professor of Operations Management. B.A., Franklin and Marshall College, 1969; M.B.A., Northeastern University, 1972; Ph.D., University of Wisconsin - Madison, 1980. (1984 -)
- NANCY BUDWIG, Ph.D., Assistant Professor of Psychology. B.A., Vassar College, 1979; Ph.D., University of California, Berkeley, 1986. (1986 -)
- SARAH D. BUIE, M.F.A., Associate Professor of Graphic Design. B.S., Wellesley College, 1971; M.F.A., Yale University, 1978. (1981 -)
- PAUL F. BURKE JR., Ph.D., Associate Professor of Classics, Adjunct in History. A.B., Stanford University, 1965; Ph.D., 1971. (1976 -)
- MARCIA BUTZEL, Ph.D., Assistant Professor of French. B.A., Bryn Mawr College, 1975; M.A., University of Iowa, 1977; Ph.D., 1984. (1984 -)
- GERALD R. CASTONGUAY, Ph.D., Associate Professor of Music, Music Program Director. B.Mus., Boston University, 1959; M.Mus., Hartt College of Music, 1963; M.A., Harvard University, 1965; Ph.D., Rutgers University, 1975. (1970 -)
- GARY N. CHAISON, Ph.D., Professor of Management. B.B.A., Baruch College, 1966; M.B.A., 1967; Ph.D., State University of New York at Buffalo, 1972. (1981 -)
- JON A. CHILINGERIAN, Ph.D., Assistant Professor of Management. B.A., Northeastern University, 1973; M.P.A., Northeastern University, 1975; Ph.D., Massachusetts Institute of Technology, 1986. (1986 -)
- ARTHUR CHOU, Ph.D., Assistant Professor of Mathematics. B.Sc., Tunghai University, Taiwan, 1976; Ph.D., State University of New York at Stony Brook, 1982. (1982 -)
- LEONARD E. CIRILLO, Ph.D., Associate Professor of Psychology. B.A., City College of New York, 1958; M.A., Clark University, 1962; Ph.D., 1965. (1968 -)
- EDWARD CLINE, Ph.D., Professor of Mathematics. B.S., California Institute of Technology, 1962; Ph.D., 1966. (1975 -)
- M. MARGARET COMER, Ph.D., Associate Professor of Biology, Adjunct Associate Professor in Chemistry, Director, Biochemistry and Molecular Biology Program. A.B., Harvard University, 1964; Ph.D., Purdue University, 1972. (1976 -)
- JOHN J. CONRON, Ph.D., Associate Professor of English, Adjunct Associate Professor of Comparative Literature, Adjunct Associate Professor of Art History and Criticism. Director of American Studies Program. A.B., Brown University, 1961; M.A., University of Michigan, 1966; Ph.D., 1970. (1977 -)
- BRIAN J. COOK, Ph.D., Assistant Professor of Government. B.A., Cleveland State University, 1977; M.A., University of Maryland, 1982; Ph.D., 1984. (1984 -)
- J. PETER CORDELLA, Ph.D., Visiting Assistant Professor of Sociology. B.A., Boston College, 1976; M.A., 1977; Ph.D., Boston University, 1985. (1985 -)
- JOSEPH C. CURTIS, Ph.D., Professor of Biology. B.A., Cornell University, 1951; Ph.D., Brown University, 1960. (1963 -)

- WILLIAM DAMON, Ph.D., Professor of Psychology, Chair, Department of Education. B.A., Harvard University, 1967; Ph.D., University of California, Berkeley, 1973. (1973 -)
- JOHN S. DAVIES, Ph.D., Associate Professor of Physics. B.S., University of Maryland, 1953; M.S., 1954; Ph.D., 1960. (1963 -)
- JUDITH W. DECEW, Ph.D., Assistant Professor of Philosophy. B.A., University of Rochester; M.A., University of Massachusetts-Amherst; Ph.D., 1978. (1987 -)
- JOSEPH deRIVERA, Ph.D., Professor of Psychology. B.A., Yale University, 1953; Ph.D., Stanford University, 1961. (1970 -)
- PATRICK DERR, Ph.D., Associate Professor of Philosophy; Chair, Department of Philosophy. B.A., Seattle University, 1972; Ph.D., University of Notre Dame, 1976. (1976 -)
- DILEEP G. DHAVALA, Ph.D., Associate Professor of Accounting. B.S., Indian Institute of Technology, Bombay, 1969; M.S., State University of New York, Buffalo, 1972; Ph.D., The Pennsylvania State University, 1975. (1987 -)
- DAVID K. DICKINSON, Ed.D., Assistant Professor of Education. B.A., Oberlin College, 1971; Ed.M., Temple University, 1976; Ed.D., Harvard University, 1982. (1988 -)
- CAROL C. D'LUGO, Ph.D., Assistant Professor of Spanish. B.A., Douglass College, 1965; M.A., University of Illinois, 1967; Ph.D., Brown University, 1983. (1984 -)
- MARVIN A. D'LUGO, Ph.D., Associate Professor of Spanish, Adjunct in Screen Studies. B.A., Brooklyn College, 1965; M.A., University of Illinois, 1967; Ph.D., 1969. (1972 -)
- J. RONALD EASTMAN, Ph.D., Associate Professor of Geography. B.A., Bishop's University, 1971; M.A., Queen's University, Ontario, 1977; Ph.D., Boston University, 1982. (1981 -)
- JAMES P. ELLIOTT, Ph.D., Associate Professor of English, Adjunct in Screen Studies. B.A., Stanford University, 1966; Ph.D., Indiana University, 1971. (1971 -)
- JACQUE L. EMEL, Ph.D., Assistant Professor of Geography. B.A., University of Kansas, 1972; M.S., Pennsylvania State University, 1976; Ph.D., University of Arizona, 1983. (1984 -)
- CYNTHIA ENLOE, Ph.D., Professor of Government and International Relations; Chair, Department of Government and International Relations. B.A., Connecticut College, 1960; M.A., University of California, Berkeley, 1963; Ph.D., 1967. (1972-)
- KAREN L. ERICKSON, Ph.D., Professor of Chemistry; Chair, Department of Chemistry. B.S., Siena Heights College, 1960; Ph.D., Purdue University, 1964. (1965 -)
- RACHEL JOFFE FALMAGNE, Ph.D., Professor of Psychology. Licence in Psychological Sciences, University of Brussels, 1961; Docteur en Sciences Psychologiques, 1967. (1973 -)
- JAMES P. FERDERER, M.A., Assistant Professor of Economics. B.A., The College of St. Thomas, 1983; M.A., Washington University, 1985. (1988 -)

- WILLIAM R. FERGUSON, Ph.D., Associate Professor of Spanish. A.B., Harvard College, 1965; A.M., Harvard University, 1970; Ph.D., 1975. (1979 -)
- RICHARD B. FORD, Ph.D., Professor of Comparative History, Co-director of International Development and Social Change Program. B.A., Denison University, 1957; M.A.T., Yale University, 1959; Ph.D., University of Denver, 1966. (1968 -)
- RONALD P. FORMISANO, Ph.D., Professor of American History, Adjunct Professor of Government. B.A., Brown University, 1960; M.A., University of Wisconsin, 1962; Ph.D., Wayne State University, 1966. (1973 -)
- EVERETT FOX, Ph.D., Assistant Professor of Judaic Studies; Director, Judaic Studies Program. B.A., Brandeis University, 1968; M.A., 1972; Ph.D., 1975. (1987 -)
- WESLEY M. FULLER, M.Mus., Professor of Music, Adjunct Professor of Comparative Literature. B.Mus., Oberlin Conservatory of Music, 1953; M.Mus., Boston University, 1958. (1963 -)
- SUNHEE KIM GERTZ, Ph.D., Assistant Professor of English. B.A., Carnegie-Mellon University, 1973; M.A., State University of New York, Binghamton, 1977; Ph.D., University of Chicago, 1983. (1985 -)
- JOSEPH H. GOLEC, Ph.D., Assistant Professor of Finance. B.A., Trinity College, 1980; M.A., Washington University, 1982; Ph.D., 1986. (1986 -)
- HARVEY A. GOULD, Ph.D., Professor of Physics; Chair, Department of Physics. B.A., University of California, Berkeley, 1960; Ph.D., 1966. (1971 -)
- BONNIE LEE GRAD, Ph.D., Associate Professor of Art History. B.A., Cornell University, 1971; Ph.D., University of Virginia, 1977. (1977 -)
- WAYNE B. GRAY, Ph.D., Assistant Professor of Economics. A.B., Dartmouth College, 1977; M.A., Harvard University, 1979; Ph.D., 1983. (1984 -)
- FREDERICK GREEN, Ph.D., Assistant Professor of Mathematics and Computer Science. B.S., Rensselaer Polytechnic Institute, 1973; M.S., Worcester Polytechnic Institute, 1979; Ph.D., Yale University, 1986. (1986 -)
- FREDERICK T. GREENAWAY, Ph.D., Associate Professor of Chemistry. B.Sc., University of Canterbury, New Zealand, 1969; Ph.D., 1973. (1980 -)
- BEVERLY GRIER, Ph.D., Assistant Professor of Government. M.A., Yale University, 1975; Ph.D., 1979. (1986 -)
- DEBRA S. GROSS, Ph.D., Assistant Professor of Government. B.A., The University of Michigan, 1974; M.C.R.P., The Ohio State University, 1976; M.A., 1982; Ph.D., 1986. (1986 -)
- STANFORD N. HAGOPIAN-GERBER, Ph.D., Associate Professor of Anthropology. B.A., University of Kansas City, 1955; M.A., 1957; Ph.D., University of Missouri, 1966. (1968 -)

- SUSAN E. HANSON, Ph.D., Professor of Geography; Director, Graduate School of Geography. A.B., Middlebury College, 1964; M.S., Northwestern University, 1969; Ph.D., 1973. (1981 -)
- STANLEY R. HERWITZ, Ph.D., Assistant Professor of Geography. B.A., New College of the University of South Florida, 1977; M.A., University of California, Berkeley, 1979; Ph.D., Australian National University, Canberra, 1983. (1984 -)
- SERENA S. HILSINGER, Ph.D., Professor of English. A.B., Douglass College, Rutgers University, 1959; Ph.D., University of Connecticut, 1964. (1962 -)
- CHRISTOPH HOHENEMSER, Ph.D., Professor of Physics; Director, Environment, Technology and Society Program. B.A., Swarthmore College, 1958; Ph.D., Washington University, St. Louis, 1963. (1971 -)
- ROBERT C. HSU, Ph.D., Associate Professor of Economics. B.A., National Taiwan University, 1960; M.A., Atlanta University, 1963; Ph.D., University of California, Berkeley, 1970. (1971 -)
- KENNETH HUGHES, Ph.D., Professor of German and Russian. B.A., Rutgers University, 1962; Ph.D., 1967. (1973 -)
- H. WILLIAM JOHANSEN, Ph.D., Professor of Biology. B.A., San Jose State College, 1955; M.A., San Francisco State College, 1961; Ph.D., University of California, Berkeley, 1966. (1968 -)
- DOUGLAS L. JOHNSON, Ph.D., Associate Professor of Geography. B.A., Clark University, 1965; M.A., University of Chicago, 1968; Ph.D., 1971. (1973 -)
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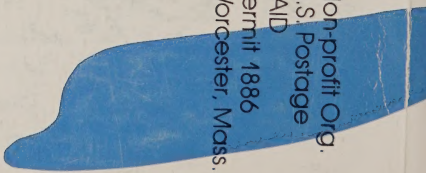
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